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LIFE STRESS AND JOB STRESS: RELATIONSHIPS WITH LEISURE ACTIVITIES OF PUBLIC MANAGERS

University — Université
UNIVERSITY OF ALBERTA

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée
MASTER of ARTS

Year this degree conferred — Année d'obtention de ce grade
1984

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LIFE STRESS AND JOB STRESS: RELATIONSHIPS WITH LEISURE ACTIVITIES OF PUBLIC MANAGERS

by

© PETER A. WHITE

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS IN RECREATION ADMINISTRATION

DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS STUDIES

EDMONTON, ALBERTA

FALL, 1984

THE UNIVERSITY OF ALBERTA

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Abstract

Research into physical activity and stress have supported an inverse relationship between these variables. Subsequently, five problem statements were developed to investigate a similar relationship, that between leisure activity participation with stress. These problem statements were designed to examine relationships between three study variables, management function group, stress and leisure activity participation.

Spearman rank order correlation analysis was utilized to determine the grouping of managers by their functions and three distinct arrangements were found. The study variable stress was examined from two major perspectives. These were life events stress and organizational job stress. Leisure activity participation was examined in three ways. The first tabulated the numbers of activities in which repondents participated, the second applied factor analysis which resulted in six leisure activity factors; and the third used cluster analysis which assigned respondents into two distinct leisure clusters.

Results of initial frequencies examination which describe the study population are prepared in tabular and written format. Managers range in age from under 30 to 60 years and are generally well educated. As a group, they experienced a moderate level of life events stress and indicated that the situations of; heavy workload, long hours, disparity between a manager's responsibilities and goals, and the expectations of him by the organization, lack of feedback on job performance, and the political climate within the organization were the major sources of stress on the job.

Participation in both active and sedentary type leisure activities was found to exist for groups of managers. However due to small sample sizes a definite conclusion could not be made regarding the pattern indicated. High education levels corresponded to the managers performing organizational control functions. These upper level managers participated in more active leisure activities and at a higher rate than other managers. Life events stress was found to be lower for participants grouped in the active leisure cluster. Finally, participation rates were higher in the Family and Sports Activity factors and for participants in the active leisure cluster.

Conclusions are based upon the information given by this specific population. Younger managers experienced more stress from life events and from job invovlement and that stress from life events was generally experienced more by higher level managers. Stress was found related to age and job function, such that stress was at reduced levels for older managers who did not perform organizational control functions. Stress was found inversely related to leisure activity participation as the life event measure of stress was found to indicate that participation in Low-Physical Entertainment Activity corresponded to high stress levels and that membership in the active leisure cluster corresponded to low levels of stress.

Acknowledgements

Within this space I wish to express my appreciation to all those persons who were involved with this study.

The help and interest given to the study by the members of I.P.A.C., Edmonton Regional group, and the contact persons of each agency, provided access to the study population of managers and for this I am deeply indebted.

My thanks to Dr. T.H. White, whose insights assisted greatly in the development of the study.

Also my thanks to Dr. T.L. Burton for his support and advice and to Dr. C. Padfield for his assistance in the completing stages of the thesis.

Finally, a special word of appreciation to Dr. R.P. Heron. His help, guidance and advice was instrumental in the production of this thesis. Thank you.

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I. INTRODUCTION

Much of the current literature available on stress emphasizes its negative aspect and this certainly creates an environment for enquiry into all methods that could be utilized for the control of stress. This study was designed to explore relationships between management function, stress and leisure participation.

Significance of the Study

The debilitating effects of stress have received increasing attention in Canadian media. Several reasons appear to contribute to this increased media interest on the subject of stress. Albrecht (1979) has stated that society has virtually conquered infectious disease. However, these diseases have been replaced by degenerative stress diseases, two of which are coronary heart disease and gastro-intestinal disfunction. In 1979, American society paid approximately $35.1 billion in health costs attributed to stress (Benson and Allen, 1980).

These factors of degenerative disease and costs incurred by society emphasize the quantifiable health and economic impacts of stress. On an individual basis, the effects also extract a cost both for the employing organization and for personal health.

For the organization, the effects of stress can be observed in lower employee productivity and motivation, higher employee absenteeism and turnover, and greater employee dissatisfaction with the job (Quick and Quick, 1979). These effects are costly in man hours lost and low employee morale.

For the individual, the results of stress can be debilitating and, at worst, fatal. The incidence of health related reactions (cardiac, respiratory, gastro-intestinal, and allergic symptoms) is found to relate directly to the level of stress (Brocher, 1979).

Managerial personnel are major resources of any organization: their health and performance are essential keys to organizational survival (Albrecht, 1979). Much of the research literature in management science suggests that all managers, from supervisory to executive levels, are affected by stress due to their specific functions and responsibilities (Grub,

1969; Kiev, 1974; Cooper, 1979).

People react differently to stress. Some tolerate or even thrive on high levels of it, while others are subdued or incapacitated by small stressful disturbances. These differences in reacting to stress may be a result of learned behavioral responses rather than genetic predispositions. Use of stress management techniques which are based on training, such as biofeedback, meditation, development of communication skills, relaxation training, and involvement in physical activity have assisted, to some extent, in reducing and/or compensating for the effects of stress (Weinstein et al, 1982).

The relationship between the effects of stress and participation in physical activity appears to be of an inverse nature: namely, as the frequency of participation increases, the effects of stress, that of decreased worker efficiency and higher rates of absenteeism, decreases as indicated by the use of questionnaires which require the respondent to recall stress symptoms (Hines, 1974; Howard, 1976; Albrecht, 1979; Kiev and Kohn, 1979). Similar findings were listed in Fitness and Lifestyle In Canada ,the Canada Fitness Survey (1983). This survey discovered that 60% of respondents perceived regular physical activity to result in mental and physical well being.

Leisure, or doing the things we like to do, are now being considered possible 'antidotes' for the effects of stress (Hines, 1974; Schmidt, 1974; Heywood, 1978; Sailer et al, 1982). Hines (1974) believes that participation in company sponsored activity spells relief from excessive stress arising in an employee's work environment. Heywood (1978) concluded that the recreative experience gives relief to physiological stress and could be viewed as an antidote to the periodic tensions and anxieties that confront the individual.

The reduction of stress may produce benefits for both the individual and the organization. Measureable improvements of the individual's well-being result from stress reduction (Alexander, 1980) and decreases in the number of lost man hours by this improvement of employee well-being might produce major cost savings to the organization.

Stress has become an economic concern of a multi-million dollar dimension as indicated by recent estimates of stress related health costs to American(U.S.A.) society (Benson and Allen, 1980). Therefore in periods of economic restraint, it is necessary to examine methods of handling stress that could produce economic benefits. Stress, as a concept, is unique to each individual. This variability, along with the expanding costs of stress, encourages researchers to explore all methods which exhibit promise in stress reduction.

Statement of the Problem

The study sought to determine whether or not a relationship exists between stress, defined both as life events stress and job stress, and leisure activity participation ascertained from responses to the preceding year's active participation in leisure pursuits from an activity listing adopted from the Leisure Activity Blank (McKecknie, 1975). It examined data obtained from a group of public administrators employed in the City of Edmonton by both Provincial and Municipal Government Agencies.

Complete analysis of this problem was considered to be best achieved through examination of specific aspects of the three study variables, management function, stress, and leisure participation, as outlined in the following problem statements.

Problem 1. Are there relationships between the demographic measures of age or education and stress.

Problem 2. Do either age or education affect the involvement in the numbers of leisure activities or the type of leisure activity.

Problem 3. Does alignment with specific management job function groupings affect the levels of stress experienced by the manager.

Problem 4. Do specific management job function groupings reflect the numbers of leisure activities or type of leisure participation of managers.

Problem 5. Does stress affect the numbers of leisure activities or the type of leisure participation of managers.

Definition of Terms

Terms used in this study are defined as follows:

Manager:

A person in an organization who has both administrative and supervisory responsibilities and performs one or more of these functions; planning, directing, controlling, organizing, producing, or communicating (Drucker, 1954).

Leisure:

Time free from work and other obligations, which also encompasses activities that are characterized by a feeling of (comparative) freedom (Parker, 1976).

Leisure activity participation:

Pariticipation in an activity or experience occurring during one's leisure.

Stress:

An external causal agent that produces disturbance or change of a physiologic, psychologic, or social nature in stricken individuals.

Delimitations

The study has the following deliminations. Six public organizations were utilized for administering the data collection schedules. These organizations are listed below:

1. The Worker's Compensation Board, Province of Alberta;
2. The Office of the Auditor General, City of Edmonton;
3. The Administration Branch, Central Supply and Services Department, City of Edmonton;
4. The Parks and Recreation Department, City of Edmonton;
5. The Personnel Administration Office, Province of Alberta;
6. The Department of Advanced Education, Province of Albera.

Data were collected by a questionnaire instrument which requested information from respondents about: i) demography and occupational job responsibilities; ii) occurrence of life events and stress on the job; and iii) leisure participation.

All data were collected in relation to the specific time sequence of twelve months which began in July of 1982 and ended in June of 1983.

This study is limited to analyzing the responses of no less than forty-five completed schedules from male management personnel.

Descriptions of the study population are restricted to the demographic variables, age and education, in the examinations of relationships between the major study variables of management job function, life events stress, job stress and leisure activity participation.

Limitations

Three limitations were accepted for this study. The first is the nature of the format applied in the questionnaire. A closed-ended format was used which restricts the amount of information that can be obtained from respondents.

Secondly, the job responsibility statements utilized in this study were previously used only in a study with a female management population and were untried with a male population.

Finally, the leisure activity listing used in this study was primarily based on a leisure activity blank developed in Marin County, California. To compensate for the difference in leisure activities available to an Edmonton, Alberta population, additional leisure activities were selected from a group of Canadian leisure surveys. The resulting leisure activity listing is

assumed to be representative of leisure activities available in Edmonton.

Nature of the Study

Selltiz et al., (1967) describe the exploratory or formulative study to be research which attempts

> ... to gain familiarity with a phenomenon or to achieve new insights into it, often in order to formulate a more precise research problem or to develop hypotheses.
> (Sellitz et al.,1967:50)

The intent of the present study is primarily to investigate the phenomenon of stress in relation to leisure participation. It is therefore, exploring aspects of the stress phenomenon which affect the frequency of and the type of leisure. Hypotheses have not been postulated in this study, due in part to the limited research concerning the stated issue.

Selltiz et al (1967) extended the discussion about exploratory research to emphasize that its main purpose is the discovery of ideas and insights into the phenomenon under study. These authors suggest that the scope of the exploratory research design must be flexible enough to permit consideration of many different aspects of a phenomenon. The issue in the present research frame has been designed in a manner consistent with this stated flexibility, allowing for the examination of several variables as indicated by the stated problems of the study.

The nature of this research is aptly described by Selltiz et al. (1967) in the following statement.

> ... an exploratory study is concerned with an area in which hypotheses have not yet been formulated; the task then is to review the available material with sensitivity to the hypotheses that may be derived from it.
> (Sellitz et al.,1967:51)

The Selltiz et al (1967) approach to explaining the exploratory study has been the main foundation for developing the methodology applied in this research.

Outline of the Study

The preceding introduction is subsequently followed by a literature review which examines the conceptual background of the study variables, and discusses the

research-supported relationships between them.

The third chapter presents the methods and procedures applied to accomplish the aim of the study. Included in this chapter are explanations, of the data collection instrument, a discussion regarding the data collection procedures, and the statistical techniques utilized in the data analyses.

The results from the data analyses are presented in Chapter 4. This chapter gives both discussions on and tabular illustrations of all findings from the initial frequency analysis to the last relationship test of the study variables.

Chapter 5 incorporates the conceptual background information, the methodological procedures and the results into a concise presentation of the analysis of the problems.

The final chapter summarizes the study, indicating the conclusions reached and the implications for practice and research.

II. CONCEPTUAL AND THEORETICAL BACKGROUND FOR THE STUDY

Management Science literature has predominantly utilized the case study methodology in endeavors to explain the occupation of manager. Much of this literature has dealt with roles, functions and responsibilities in describing management and has proved unsuccessful in reaching an explicit definition. This review delves into these aspects of management, emphasizing those roles and functions considered most important in the definition of management.

Stress research developed from physiological investigations, but has since turned its focus of the study toward sociology and psychology to assist in understanding the stress phenomenon. The focus in this review explains stress in reference to these latter disciplines.

The concept of leisure has developed from many disciplines, two examples of which are psychology and sociology. This eclecticism made it difficult for theorists to reach a concensus on a definition of leisure. The definitions applied to leisure from the disciplines of psychology and sociology are examined. Various associations between leisure and demographic variables, and management and stress are elucidated to emphasize the influence of leisure on the changing aspects of society.

The final phase of the review deals with research that has examined the interrelationships of the major variables.

Demographic Variables Affecting Leisure Participation

The various effects that specific demographic variables may have on leisure participation are of interest to this study. Burdge and Hendricks (1973) have speculated that persons not engaged in any type of structured leisure are the same people who do nothing else in society. The research of Burdge and Hendricks (1973) overlooks participants who engage in spontaneous (unstructured) leisure activity. Spontaneous participation may restrict the interpretations of investigations which only utilize leisure participation in this structured sense.

Romsa's (1976) research has suggested that social status affects the individual's decision with regard to the allocation of time for leisure in the sense that certain activities are not worthy of participation and that age, marital status, number and age distribution of children, sex and education are the most significant socio-economic factors associated with frequency of paricipation. Leisure research has focused attention on understanding the ramifications of the demographic variables, age, education, and occupation on a person's leisure activity and has produced enough information about these variables to allow for additional discussion. Other variables mentioned by Romsa (1976) have received less attention as to the role they play in determining leisure activity and are not considered further in this study.

More detailed review of the influence exerted on leisure activity involvement by the demographic variables, age, education, and occupation follows.

Age: Zuzanek (1978) compiled research which examined age as a predictor of leisure participation. The conclusions drawn from this review indicated that, with the increase of age into the retirement years, the number of activities involved in decline as well as the participation rates in these activities. Although Zuzanek concluded that the majority of leisure activities have declining participation rates with increasing age, he also discovered that activity which is relatively 'inelastic' to the change of age (examples of which are, reading, home-based activity and watching T.V.) are the most often quoted leisure pursuits of adults. Research findings reported by Zuzanek (1978) suggested that a reduction of leisure involvement occurs during the retiring years even though time for leisure increases at this point in the life cycle. Further, Boothby et al (1981) reported that the fall-off in physical recreational activity correlates well with increasing age. Several explanations for this decline appear to exist. Physical capabilities of the individual generally decline with age, subsequently creating difficulty for these individuals to participate within the realm of physical comfort even if participation is even possible. A second explanation regarding the decline in participation may be structural changes in the family. With children leaving the matrimonial home, the parents'

leisure lifestyle is altered from that of a family to that of a couple with a reduction in many of the leisure activities that predominated during the family's development. Boothby et al (1981) also suggest in addition to these reasons for decreasing participation in active recreation, that changes in the relationships between the individual and his sporting environment also develop. These changes are evident in changes with the activity itself, the facility network in which the activity takes place, the social network which supports the activity and the social and economic constraints which bound the participants' life style. The types of activity chosen by different age groups, as indicated by Zuzanek (1978), may be indications that specific relationships do exist between age and leisure activity participation. Zuzanek reviewed research that indicated a much steeper decline in participation for active sport and public entertainment leisure and an increase in 'home type' activity, such as playing cards, voluntary organizations and home entertainment as the participants' age increased. The findings of earlier studies have been supported recently by Kelly (1980) who found that younger persons are far more active in demanding sports.

Education: Education also appears to have some bearing upon an individual's leisure participation. Romsa (1973) examined, level of income, socioeconomic status, and education, as predictors of the type of leisure participation and discovered that with all of these variables, including the higher level of education attained by an individual, the greater was the probability that the individual would participate in a grouping of leisure pursuits that Romsa determined to be of an 'active' nature. This finding is partially corroborated by the investigations of Zuzanek (1978), which indicated that the highest levels of college education correspond to higher participation rates and a greater variety of activities chosen for participation. The activities which do not correlate positively with education include watching T.V., radio listening, playing cards and undertaking special hobbies. These findings suggest that patterns in specific leisure participation may exist for persons grouped by their educational attainment. Kelly (1980) discovered that the activities of sailing, golf, and cross-country skiing were moderately related

to higher educational levels attained, yet the activities related to education were more limited in numbers than those discussed by Zuzanek (1978).

Occupation: The final demographic variable to be discussed in this section is occupation. Investigations have examined the associations between participation in leisure activities and occupation and have found positive associations between the two variables, in that increases in the frequency of, participation in, and variety of leisure activity, correspond to suggested higher prestige occupations (Burdge, 1969; Morris et al, 1972; Zuzanek, 1978). For example, Burdge (1969) found that higher prestige occupations contained the most active participants of structured leisure of all occupational groups studied. Morris et al (1972) supported this by finding that within a Laramie, Wyoming population, persons in higher prestige occupations were more likely to make available use of public recreation programs. Further research that focussed upon specific occupational groups revealed that participation in cultural and in active leisure was positively associated with professional and high prestige occupations (Dowell, 1967; Bishop and Ikeda, 1969).

The results of the preceding research may be questioned as reservations on the cross cultural validity have been presented by Romsa (1973). After studying the leisure patterns of Anglo- and Franco-phone Quebecers, he suggested that differences between groups in participation rates may be affected by the groups' cultural differences because Anglo-phone Quebecers were more concentrated in the active leisure groupings. However, prior to this research, Cunningham et al (1970) applied quantifiable measures to leisure involvement and found that the number of active pursuits correlated to high occupational prestige was very limited. This finding has been supported by White (1975) who, after lengthy analysis, found that occupation had no independent affects on either the variety or the level of activity participation and also by Kelly's (1980) study which found occupation not to be a strong independent variable in determining leisure activity participation. This contradiction suggests that occupation as a predictor of leisure involvement is, at best suspect.

The indications from the research presented above are that more rigorous methods need to be applied to control for possible inconsistencies in cultural and perhaps geographical differences in occupational groups under study. Further, a standardized terminology and method for measuring leisure may prevent confusion in future research.

In this study these variables are augmented in the data collection schedule by the additional demographic variables of: marital status, number and ages of children, level of the manager's position in the organization from both the Chief Operating Officer and the production personnel of the organization, in order to describe the characteristics of the population in this study.

Examination of Managerial Functions

The roles and functions performed by people who are commonly referred to as 'managers, administrators, or supervisors' are extremely varied and complex. Summer and O'Connell (1973) explain this complexity by referring to the need for managers to deal with decisions by incorporating all aspects of their expertise.

> Policy questions require the manager to deal with the whole situation ... he cannot become solely an economist, a political scientist, or a psychologist (Summer and O'Connell, 1973:48).

The eclectic approach to defining management appears to be well accepted; many writers of management science discuss the necessary functions and roles of this occupational group but generally do not consider any one of planning, directing, controlling, organizing, producing, communicating or leading to be the main defining function of the manager. Kootnz and O'Donnell (1974) indicate that managing is an operation or process best dissected intellectually by analyzing managerial functions. For this reason, the managerial functions listed above are explained in the following text.

Planning: Planning has been emphasized as one of the major functions of mangement (Drucker, 1954; Ready, 1967; Barnard, 1968; Mintzberg, 1973; Summer and O'Connell, 1973;

Robbins, 1974,1980; Kootnz and O'Donnell, 1974). This element is of primary importance for future decision-making processes, as it involves many aspects of information gathering and evaluation. The function of planning evaluates logical sequences of events for both the external and internal environments that may affect the organization.

However varying opinions exist as to the definition that should be applied to planning. Summer and O'Connell (1973) suggest planning is the means to assess the external environment from which to set organizational goals. Kootnz and O'Donnell (1974) feel that it reflects successive steps and conditions that are required to reach an objective. Robbins (1974) believes that planning determines the objectives and the means to reach these in advance.

In each of the above explanations, planning is considered to be a process by which the organization attempts to assess the path which it should follow for optimal survival. This process considers all possible extraneous variables that may affect organizational objectives, whether they be economic concerns, labor disputes, or availability of goods and services. Planning must subsequently prepare alternatives as contingencies for the chosen direction.

Directing: Directing the chosen organizational course of action is also described as a major function of organizational management (Drucker, 1954; Ready, 1967; Barnard, 1968; Summer and O'Connell, 1973; Mintzberg, 1973; Kootnz and O'Donnell, 1974; Robbins, 1974, 1980). Directing has been compared to the process of leading, which incorporates similar elements of guiding and supervising subordinates to carry out the objectives outlined in the planning process (Robbins, 1974).

The directing function pertains to actually accomplishing predetermined goals and objectives by utilizing the manager's human awareness skills. The key element in reaching any organizational goal is the production unit, the individual worker. Directing the organization's course depends heavily upon the manager being able to acquire the necessary work output from his production units. The skills required may be those of a psychologist, for motivational purposes or those of an arbitrator, to smooth out specific job description problems. Whatever

is necessary, effective direction given by management will result in attaining the desired ends (Drucker, 1954, Barnard, 1968).

Directing refers to controlling the individual in the organization. A process of similar nature is required to maintain the direction of the organization. This function is referred to as *controlling*.

Controlling: Managers are required to assess the environment affecting their organization and provide the necessary adaptative courses which suit the organization to its environment in a controlled manner (Mintzberg, 1973). This controlling function is responsible for both internal and external forces that might affect organizational performance (Kootnz and O'Donnell, 1974). Another viewpoint, expressed by Robbins (1974), suggests that control is important in the leadership function and is maintained through evaluation and scrutiny of performance factors that affect accomplishing pre-stated objectives.

Control, as a function, has been suggested for directing organizational progress but often overlaps into the area of directing. Drucker (1954:16) insists that control is the integral portion of the managing functions that refer to "managing a business, managing managers and managing worker and work." The difference between the two terms is that directing is specific to the individual and controlling is general to the organization.

Organizing: The role of organizer appears to be the logical point upon which to group the main functions of planning, directing and controlling. It refers to consolidating major organizational aspects, examples of which are: the analysis of internal activity (Drucker, 1954); the establishment of intentional roles, the delegation of authority (Kootnz and O'Donnell, 1974) and the development of relationships between activity, workers and physical factors required to accomplish tasks (Robbins, 1974).

Organizing has been suggested to be the process of leadership by which management elicits cooperation from organizational members to achieve a desired end result (Barnard,

1967). It is the function that most stresses the analysis of internal organizational activity to create harmony in the system for production (Drucker, 1954; Robbins, 1974; Kootnz and O'Donnell, 1974).

Final production of goods and services is essential for organizational survival, and the means to achieve this objective relies upon the function of organizing.

Producing: The desired end result of any organization is production of goods and/or services. Mintzberg (1973) suggests that the role of ensuring efficient production of goods and services is essentially the prime purpose of a manager. Although stated somewhat differently, Robbins (1980) concurs that the primary concern for a manager is the universal process of efficiently achieving organizational goals with and through people.

These authors see this function to be of prime importance for a manager, and it may well be a key ingredient for a comprehensive definition of the term manager. It certainly has been expressed, by many writers in this subject area, that accomplishing desired ends is necessary for any business to survive. Drucker (1954) explains this notion by suggesting that without the manager applying his leadership skills the 'resources of production' would remain resources and never become production.

The manager's function in aiding production is critical to orgnizational survival, yet it (production) is not as much a role or function of a manager as a responsibility to ensure that desired ends are reached.

Communicating: With regard to this particular administrative function, Robbins (1974) suggests that communicating is a set of actions that are encompassed by the leading function. However, other authors believe that information processing is a unique characteristic in a definition of 'manager.'

Mintzberg (1973) views communication in an external sense in that the manager serves as the key information link between his organization and its environment. An authoritarian

internal description of communication is given by Drucker (1954).

> ...the manager has responsibilities downward to his subordinate managers. He has first to make sure that they know and understand what is demanded of them.
> (Drucker, 1954:143)

These opinions have focussed upon specific aspects of communication, though Barnard considers the managerial position to be central to the passage of information, both internally and externally (Barnard, 1968).

The position of information link or communicator, as a primary function of 'manager', is not shared by all who write on management science, but could be considered for a composite definition of 'manager.'

Leading: Robbins (1980) considers *leading* to be one of the four main components of the administrative process and has suggested in an earlier work:

> In the leading function, we guide and supervise subordinates. This function carries out the objectives established in planning. Basically, leading consists of supervision, motivation and communication.
> (Robbins, 1974:8)

Robbins (1974) and Drucker (1954) both consider that leading means controlling subordinates to reach desired end results. However, this view is not universally accepted. Ready (1967) for instance, feels it necessary to describe the leading function in the following manner:

> Getting things done through people, marshalling the factors of production, priming the pump, motivating group action, planning, organizing, controlling, reappraising.
> (Ready, 1967:67)

Ready is suggesting by this definition that leading is a major function of a manager, and that all other functions are merely parts of leading.

It is apparent if one accepts Ready's presentation, that *leading* could be an important characeristic when developing a composite definition of what a 'manager' is, yet his opinion duplicates characteristics previously established as components of management functioning. Ready's (1967) opinion may be too general to accurately describe all component parts of the managerial responsibility without isolating the parts.

Other: Additional functions discussed in the literature for defining a 'manager' which appear to be of lesser importance, deal with decision-making (Drucker, 1954; Robbins, 1980), initiating, evaluating (Drucker, 1954), cooperating and integrating (Barnard, 1968; Summer and O'Connell, 1973), staffing (Ready, 1967; Barnard, 1968; Kootnz and O'Donnell, 1974), and designing (Mintzberg, 1973; Summer and O'Connell, 1973).

No one author listed in this review has offered a composite definition of 'manager', and this may be a direct consequence of the varied functions that are attributed to this administrative position. The perception an individual has of his specific organizational position also may not encompass all of the functions described above.

For these reasons and for the purpose of this study a composite of these functions is necessary to define the manager.

Stress

Stress as a concept is unique to each person (Sailer et al, 1982). One person may think of stress in terms of occupational workload, another might perceive it as a function of a singular or ongoing event, still a third may view stress by its compounded effects upon the person. These differing viewpoints are not limited to the individual perspective. Major theoretical disciplines also offer various definitive approaches for understanding stress; for example, engineering applies the term to express the structure of force upon objects, while physiology interprets it as an initiator of change in biological systems.

Within the confines of a discipline, researchers differ as to the most appropriate method of explaining stress. This situation is apparent in Mason's (1975b) statement.

> ...the term 'stress' has been used variously to refer to 'stimulus' by some workers, 'response' by some workers, 'interaction' by others, and more comprehensive combinations of the above factors by still other workers.
>
> (Mason,1975b:29)

Lazarus (1967, 1971), Dohrenwend and Dohrenwend (1974) and Brodsky (1977) have all echoed similar sentiments. Clearly an examination of various stress interpretations may help clarify this situation.

The conceptual development of stress may have originated with research that focussed upon the beneficial and deleterious effects of stress on performance and habit formation by Yerkes and Dodson (1908). The findings of Yerkes and Dodson's (1908) studies with the electrical stimulation of mice discovered that

> Contrary to our expectations, this set of experiments did not prove that the rate of habit formation increases with increase in the strength of the electric stimulus up to the point at which the shock becomes positively injurious. Instead an intermediate range of intensity of stimulation proved to be most favorable to the acquisition of a habit.
>
> (Yerkes and Dodson,1908:471).

From these results postulations were made that an inverted "U-shaped" relationship existed between stress and performance. Selye's (1956) work on the development of the General Adaptation Syndrome (G.A.S.) and its phases of alarm, resistance and exhaustion, produced results that follow a pattern identical to that witnessed by Yerkes and Dodson (1908). This stress-performance phenomenon continues to receive attention as indicated by Benson and Allen's (1980) reference to it in their discussion of the costs to organizations, in the form of early retirement, illness, premature death and inept decisions made by employees pushed by excessive stress.

Kiev and Kohn (1979) discussed the effects of stress on performance more generally in the following passage.

> ...people require a certain amount of stress for life to have meaning. Boredom and monotony or a purposeless existence can cause as much discomfort or suffering as a high level of anxiety or excessive striving ... . Stress can even be energizing since it can stimulate creativity and, up to a point, increase efficiency and productivity ... . Every person, however, has some point at which excessive stress exacts a toll.
>
> (Kiev and Kohn,1979:1)

The acceptance of Yerkes and Dodson's (1908) conclusions appear widespread, yet refinements to this stress-performance inverted "U-shaped" curve have been suggested by Howard et al (1978) to account for individual variation. These authors suggest that this curve may alter from a flattened inverted "U-shape" to an extremely peaked inverted "U-shape" with individual variance, but accept that for the general population the inverted "U-shaped" stress-performance curve, originally developed from Yerkes and Dodson's (1908) research

holds true.

Writers on stress generally concur that W.B. Cannon first applied the term stress to aversive stimuli with his research into the understanding of homeostasis (Cannon, 1935). Cannon's investigations examined emotional states (emotional stresses) and the ensuing bodily changes (Cannon, 1914, 1929, 1935). The results of this work produced theoretical considerations that specific physiological systems may exert stabilizing effects upon an animal's ability to resist the operation of distributing forces (stress). Cannon's pioneering research was furthered by Selye who pursued the research into the adaptive responses of organisms. At the beginning of his career, Selye focussed upon the organism's response and loosely expressed stress as the affecting stimulus.

> By specific resistance we mean that type of inurement which increases resistance only against the particular type of stress to which the body had been exposed; conversely, non-specific resistance designates the ability of the body to withstand stress qualitatively different from that to which it had been adapted.
>
> (Selye, 1946:121-2).

Selye's research continued into this area of physiological study and produced a conceptual approach to explaining stress based on arguments that

> ... stress is the state manifested by a specific syndrome which consists of all the nonspecifically induced changes within a biologic system ... [these changes] are additive indicators which can express the sum of all the different adjustments that are going on in the body at any time.
>
> (Selye, 1946:54)

This progression from loose expression of stress as an affecting stimulus to an overall condition within an organism and finally to a disease state (Selye, 1974, 1980) is not widely accepted as the best explanation of stress in published research.

Mason (1975a:10) explains current thinking by this exerpt.

> ... his [Selye's] theories concerning stress and 'diseases of adaptation' continued to meet with a great deal of critical reaction ... . There are still some workers who accept Selye's views of stress, some who regard them as unproven hypotheses, and some who simply reject or ignore them.

Selye's definition of stress has been applied in research projects which vary from industrial implications of stress (Brommer, 1967), sources of stress (Levi, 1967), development of stress as a psychological concept (Appley and Trumbull, 1967), to sources of occupational

stress (Howard, 1976; Weiman, 1977). However support for an alternative definition, where stress is synonymous with event stimuli, has increased and been applied in management studies which examined job stress with employee health (Cathcart, 1977, Buhr, and Newman, 1978, Brocher, 1979), career stages and levels of stress (Marcus, 1979, Sasser and Leonard 1980), costs incurred by the organization resulting from stress (Benson and Allen, 1980), and coping of stress by executive management (Rummel and Rader, 1978). Also using this event stimulus definition of stress are psycholgical studies which investigated stressful life events and episodes of physical illness (Mechanic, 1975), stress and elicited emotional response (Arnold, 1967, Suls and Mullen, 1981), classification and understanding of life events stress (Dohrenwend and Dohrenwend, 1974, Fairbank and Hough, 1979), controllability of human stress (Miller, 1979), and stress as compared to hypertension (Myers and Miles, 1981).

Support for Selye's definition appears to be derived from physiologic examination of stress whereas the counter arguments appear to have developed from psychological and sociological investigations. Mason (1975b) has indicated that independent research in both physiology and psychology has been responsible for the state of knowledge attained and the state of definitional confusion that exists on the subject of stress at the present time.

Mason (1975b) also suggests that stress research, including endocrinological studies, is begining to utilize definitions of stress that do not favor Selye's conceptual approach. The questions raised about Selye's definition of stress focus upon his inability to recognize and control independent psychological variables such as the emotional disturbance, discomfort and pain accompanying the physical stressors of exercise, heat and cold. Mason (1975b) stated that:

> When special precautions are taken, however, to minimize psychological reactions in the study of physical stimuli, such as heat, fasting, and moderate exercise, it now appears that the pituitary-adrenal cortical system is not stimulated in non-specific fashion by these stimuli which are generally regarded as 'noxious', 'demanding', or as appreciably disturbing to homeostatic equilibrium.
>
> (Mason, 1975b:24)

This observation has produced concern over the validity of the non-specificity concept as originally developed by Selye.

The origin of stimulus-event definitions of stress may have been accepted for an exceptionally long period of time as the term 'stress' can be traced through the Latin, French and English languages as being defined as a force (stimulus) that acts upon a resistance. It appears that Selye's approach is the one that opposes the generally accepted definition. Mason (1975b), in reference to research areas familiar to Selye, expresses this situation clearly:

> Selye was aware of the strength of the trend he challenged when . . . he proposed the new meaning of nonspecific response for a word (stress) already so firmly entrenched in medical literature thought as stimulus.
>
> (Mason, 1975b:28)

The stimulus-event approach re-emerged in the 1960s as the primary definition of stress with intensive work upon the development of life-event measures which quantified total stress against ensuing illness (Dohrenwend and Dohrenwend, 1974). This life-event research was instrumental in the development of one particular scale, the Social Readjustment Rating Scale (SRRS) and its questionnaire the Schedule of Recent Experience (SRE), developed by Holmes and Rahe (1967). This stimulus event measure of stress has proved to be reliable and valid in cross cultural studies performed with Europeans (Harman et al, 1970), white, Mexican- and Negro racial groups in the United States (Komaroff et al., 1968), between Japanese and white Americans (Masuda and Holmes, 1967, Rahe, 1969) and also in comparisons between Malaysians and Americans (Woon et al, 1971). High correlation coefficients, in excess of 0.73, were established for the rank ordering of life events between the populations studied. The SRRS has also been applied in illuminating the relationship between illness onset and life events (Pietrich and Holmes, 1977). Hinkle (1974) examined the exposure to cultural change, social change and change in interpersonal relations with longitudinal and retrospective life health histories utilizing the SRRS. He concluded that clusters of illness coincided with periods

> ...when the individual was experiencing many demands and frustrations arising from his social environment or his interpersonal relations.
>
> (Hinkle, 1974:21)

Holmes and Masuda's (1974) examination of research utilizing the SRRS agreed that strong positive correlations existed between the magnitude of life change and seriousness of the chronic illness experienced in the populations studied. Wildman (1978) applied life events study

to examining the effects of life change on college grade performance and established that, above a certain threshold level of life change, further change was inversely related to the grades attained by college sociology students. The SRRS was also utilized in the development of manuals which were designed for use by medical practitioners and clinicians for the prevention and control of stress (Weinstein et al, 1982).

The value of life event scales in stress research are explained below.

> These scales provide the basis for perhaps the most active area of stress research. Retrospective investigations using either the SRE or the SRRS have demonstrated a linear relationship between mounting life change and cardiac death, myocardial infarction, fractures, accidents, diabetes, leukemia, and infectious diseases (Holmes and Masuda, 1974). Prospective studies, a large portion of which were conducted with Navy personnel, have also provided modest support of the hypothesized relationship between life change and illness onset (Rahe, 1968; Rahe, McKean, and Arthur, 1967). Given the range of populations studied and the range of pathologies implicated, the phenomenon and the instruments used to assess it must be fairly robust.
>
> (Hogan and Hogan, 1982:150)

Hogan and Hogan (1982) suggest caution should be exercised when applying these scales:

> ...[they] were developed in a self consciously atheoretical and empirical fashion. Consequently results derived from these measures neither support ... any theoretical perspective, because the test authors have been relatively unconcerned with the theoretical implications of their work.
>
> (Hogan and Hogan, 1982:155)

However, the concepts underlying life event scales are rooted with Cannon's pioneering work on the organism's homeostatic balance. These scales have been extended from the limits applied to stress variables by Cannon to include psychological and sociological events which also affect organistic homeostasis.

A more in depth discussion follows which is focused on the specific wordings given to the definition of stress. Brodsky (1977:135) has suggested that:

> In fact, each author seems to find it necessary to develop his own working definition in order to develop a conceptual base from which to approach his own subject matter.

With this problem in mind, the major definitions of stress will be discussed.

The most controversial definition of stress was developed by Selye, the initial definition states that:

> Stress is the state manifested by a specific syndrome which consists of all the nonspescifically induced changes within a biological system.
>
> (Selye, 1946:54)

Throughout the career of this eminent physiologist, the definition of stress maintained its basic meaning, yet was revised and developed to be written as:

> ... stress is defined as the consequences of any demand made upon the body.
>
> (Selye, 1974:78).

and

> ... stress = change within a system induced by an external force
>
> (Selye, 1980:28).

This thinking focuses upon stress as a state, or condition that results within the biologic organism from internal forces. The predominant difficulty with this approach to defining stress appears to result from the definition itself. Weiman (1977), although supporting Selye, concludes that the etiology of the so-called illness is yet to be identified. This situation creates extreme difficulty with the measurement of stress and the establishment of supportable research findings. Mason (1975b) indicated that many of the non-specific causes of stress such as heat, cold, exercise, and trauma, that were cited by Selye, do not occur when psychological stimuli are controlled for in experimentation. These reasons suggest that considerable work will be necessary to establish this particular definition as the accepted meaning of stress.

The definition that receives the majority of working support in the current research literature is founded on the principle of stress acting as some force upon some resistance. This manner of explanation utilizes specific stimuli to denote stress. Myers and Miles (1981:18) proposed that, "stress is defined as any demand, whether positive or negative, that requires adjustment and change." This definition is also supported by Rummel and Rader (1978:305).

Lazarus (1971) suggested this definition in a broader format which concentrated upon a complete expression of the influence stress may exert upon the individual.

> Stress refers, then, to a very broad class of problems differentiated from other problem areas because it deals with any demands which tax the system, whatever it is, a physiological system, a social system or a psychological system, and the response of that system.
>
> (Lazarus, 1971:54)

This definition implies that stress may have circular properties which could compound or magnify the initial stress experience and that the termination of this experience may not necessarily signify the cessation of stress. Instead, the response of the system may accentuate the effects of the event.

The difficulty in measuring stress by this definition stems from how to determine a value of measurement for a stress event rather than from determining what to measure. Research has concentrated on this problem with solutions being offered by various life event scales.

An additional definition of stress is reviewed because it attempts to combine both of the preceding views. The writers who subscribe to this combinational approach to definition refer to stress as an area of study or as a general field of knowledge which covers all aspects of stimulus, response and intervening variables. This is specifically illustrated by Lazarus (1966) and McLean (1976).

> Stress is not any one of these things; nor it is stimulus, response, or intervening variables, but rather a collective term for an area of study.
>
> (Larazus,1966:27)

This definition is extremely general and may result in a continuance of the confusions between definitions of stress. It is noteworthy that Lazarus later developed this definition in a manner that supports the stimulus-event definition (Lazarus, 1971:54).

These preceding theoretical definitions serve the purpose of outlining the various definitions of stress that have been the foundations of study in physiologic, pyschologic and sociologic research. Although theory substantiates proposed research by specifying its limits, the definitions applied must be operationalized for that specific research.

The prolific research and exposure of life event scales presents the opportunity to explore this type of measure for an operational definition of stress. The life event scales are

founded on the findings that

> ... clustering of social or life events achieves etiologic significance as a necessary but not sufficient cause of illness and accounts in part for the time of onset of disease.
> (Holmes and Rahe, 1967:213)

This statement supports the notion that these scales are accurate measures of 'life stress' or 'emotional stress' and produce a basis for an operational definition of stress. Noting that each event will cause varying degrees of adjustment and change, the scales are weighted for these events according to their severity of exposure for an individual.

In the interpretation of these scales, stress can be operationally defined as the accumulation of the number and assigned impact of life events.

The present study accepts the stimulus-event definition of stress and utilizes the SRRS life event measurement techniques.

Leisure

A reading of the literature explaining leisure and its components produces a recognition that the various perspectives presented emphasize the diversity of understanding and definition of the concept. Two main areas of thought predominate and are discussed below.

Briefly summarized, writers such as Kaplan (1960, 1975), Burdge (1969), Parker (1976) and Kelly (1982) explain leisure as an aspect of activity involvement, whereas DeGrazia 1962), Pieper (1949), Neulinger (1974, 1982) and Smith (1978) favor representing leisure in terms of "a state of mind". Additionally, Iso-Ahola (1980) portrays the concept from an understanding of individual feelings and cognitions. It is possible to suggest that the perspective any person offers for a definition of leisure will be based upon the individual's experience and learning. Hunnicutt (1980) expounds upon this variance in respect to time and cultural dimensions, indicating that different periods of history have interpreted leisure concepts in light of the understanding and knowledge available at the time. Neulinger (1981) discusses the issue relative to philosophical interpretation as follows:

> ... the definition of leisure tends to reflect not so much what leisure 'really is' but rather what the philosophy, special area of interest, and intent of the definer are.

(Neulinger, 1981:17)

These reasons make it necessary for this study to clearly delineate the parameters that will be set in defining this concept. Examination of the relevant conceptual foundations of leisure are pursued from the sociological (activity involvement), and psychological (state of mind) perspectives.

Sociological Context: An understanding of leisure in terms relative to time available after work (the work/leisure dichotomy) appears to be a major foundation upon which to base a definition of the leisure concept from the sociological perspective. Emphasis upon work/leisure relationships progressed from theories by Willensky (1960) on the compensatory/spillover affect of work and leisure, and by Parker (1976) on the opposition and extension relationship of work and leisure. A high affinity toward work (spillover, extension) generally was felt to mean that activity in leisure would simulate work activity. The opposite effect, that of compensatory or opposing activity was felt to mean that activity in leisure would be opposite to work activity and was also believed to explain the leisure activity of some segments in society. The development of theories from this work/leisure dichotomy have been instrumental in emphasizing dimensional and measurable qualities of leisure. However,these theories have met with some criticism. Haworth (1974) refuted the compensatory theory by implying that, although work and leisure are projected to become more similar in their importance to individual identity, the present work centered society makes it difficult for an individual to adequately substitute leisure activities for those activities lost through not having work.

Wilson's (1980) argument, that society is encouraging the view that work is purely instrumental, (an activity that is solely for the sake of the pleasure (leisure) it makes possible), discounts that the spillover/extension aspects of these theories are possible in a consumer society. Wilson's view does not accept a similarity/dissimilarity relationship between leisure and work but instead suggests that work is a necessary precursor to leisure in that work supplies the means or rewards that the individual utilizes to participate in leisure.

Also, verification of the compensatory theory was tested by Kelly (1976) but his research failed to establish concrete support for it.

These concerns have illuminated some of the difficulties apparent in the work/leisure dichotomy, but much of the research into this relationship furthered the development of a comprehensive definition of leisure. Figure I illustrates Parker's (1976) explanation of the opposition/extension theory of work and leisure in tabular form.

The study, *The Sociology of Leisure*, examined actual patterns of specific occupational groups in British society which jointly described both the work and leisure activities of the study population. Based on the information collected, Parker was able to determine that three significant work/leisure patterns existed, which were, extension, opposition and neutrality. These patterns supported lifestyles that had either a similarity, dissimilarity or neutrality of work and leisure experiences.

Parker (1976) concludes that leisure should be defined in terms of time and work, as;

> ... time free from work and other obligations, and it also encompasses activities which are characterized by a feeling of [comparative] freedom.
>
> (Parker, 1976:67)

However, other writers supported definitions which explained leisure emphasizing activity, not time free from work. Burge (1969) expressed this opinion clearly.

> ... [leisure is] activity occurring during periods free from obvious and formal duties of a paid job or other obligatory concern.
>
> (Burdge, 1969:262)

Broader definitions of leisure extend its boundaries beyond work and the free time concept to include a value judgement on activity involvement. This approach expressed by Kaplan (1975) suggests that

> ... [leisure] consists of relatively self-determined activity experience that falls into one's economically free-time roles, that is seen as leisure by participants, that is psychologically pleasant in anticipation and recollection, that potentially covers the whole range of commitment and intensity, that contains characteristic norms and constraints and that provides opportunities for recreation, personal growth and service to others.
>
> (Kaplan, 1975:26)

Figure 1

Types of Work-Leisure Relationships and Associated Variables (Industrial Level)

Work-leisure relationship variables	*Extension*	*Opposition*	*Neutrality*
Content of work and leisure	similar	deliberately different	usually different
Demarcation of spheres	weak	strong	average
Central life interest	work	-	non-work
Imprint left by work on leisure	marked	marked	not marked
Work variables			
Autonomy in work situation	high	-	low
Use of abilities (how far extended)	fully ('stretched')	unevenly ('damaged')	not ('bored')
Involvement	moral	alienative	calculative
Work colleagues	include some close friends	-	include no close friends
Work encroachment on leisure	high	low	low
Typical occupation	social workers (especially residential)	'extreme' (mining, fishing)	routine clerical and manual
Non-work variables			
Educational level	high	low	medium
Duration of leisure	short	irregular	long
Main function of leisure	continuation of personal development	recuperation	entertainment

From S. Parker. The Sociology of Leisure, (New York: 1976), p.76

Haworth (1978) inserted into the leisure debate the conjecture that, provided leisure is self-determined and not provided by recreation services agencies, it can fulfil the criteria listed by Kaplan. However self-determinence of activity depends upon the quantity of time available for leisure. This issue has been addressed by Roberts (1978) who suggested that the inconvenience of having small amounts of free time only provides the opportunity to pursue activity of the relaxation variety (eg: watching T.V., doing nothing). He feels that this scenario actually distorts the true understanding of the leisuring individual, and that research overlooks the holistic quality of individuals especially in respect to their leisure activity paricipation.

In summary the sociological theories about leisure support definitions of the concept which revolve around activity involvement in an individual's free time and that such time is characterized by relative freedom from obligation or constraint.

Psychological Context: The study of leisure from a psychological perspective appears to have developed from the writings of De Grazia (1962) and Pieper (1963). These authors explained that leisure was based on the individual's perception of it and that a complete definition of the concept needed to account for the value of leisure to the individual. The conclusion reached by these writers was that leisure should be defined in terms of "a state of mind".

This definition, discussed in conjunction with the spillover and extension theories of the work/leisure dichotomy may provide an explanation of why a person's work and leisure time overlap. It is plausible to suggest that some members of Wilensky's and Parker's study groups carried work beyond its normal time because the experience of work was perceived to be leisure and therefore accepted as a consumer of free time. However, this "state of mind" definition is difficult to measure as is illustrated by the following passage.

> What I regard as work you may call leisure, my experience of necessity may be your experience of freedom ... my unpaid freetime activity may be your paid and timely activity.
>
> (Smith, 1978:18)

It is apparent that the underlying causes of behavior are less quantifiable than the behavior itself, since perception of the leisure experience varies both inter-individually and intra-individually. Neulinger (1974:135) suggests that the understanding of behavioral variability may best be determined by the interplay of certain factors; (i) the situation experienced, (ii) the personality of the individual; and (iii) the type of response elicited.

Additional study on personality and activity correlates (Paluba and Neulinger, 1976) provided support for the concept that certain needs and personality characteristics tend to be associated with people who engage in specific free-time activities. These examinations of participation behavior have helped to produce a framework for defining leisure. However, difficulties exist in determining the true intentions of participants mostly because of the lack of valid and reliable measurement techniques to examine various effects on the leisure participation equation. For example, the pressure of participation encountered by the activity's social acceptability and the value of participation expressed by a social group may influence the choice of participation. Smith (1978), utilizing these elements, defines the concept of leisure in this manner:

> ... leisure involves a qualitative experience of freedom and choice, an experience which may be realized during one's free time and includes a variety of activities and interests.
>
> (Smith, 1978:19)

Neulinger (1982) presented a much broader and less specific description of leisure:

> It is generally recognized that these [issues of leisure] include at least the following: free time, free-time activities, and a state of mind of a particular nature.
>
> (Neulinger, 1982:57)

The psychological definitions of leisure have evolved from the understanding of individual perception within the qualitative aspects of freedom and choice.

The definition accepted for leisure by this study is that expressed by sociological writers which applies the term leisure in a context that encompasses the components of free time and

activity participation. This method is preferred for measurement because of the ease of recording observable and experienced behavior within specific time sequences. The psychological perspective expresses concern with understanding the underlying motivations of participation which may fluctuate over time and which are more difficult to accurately measure.

The Management/Leisure Association

Studies have indicated that within groups of management personnel specific patterns of leisure behavior exist. Managers represent a varied unit within occupational groupings, yet appear to have affinity toward similar occupational pursuits. They have been described by Burdge (1969) and Bishop and Ikeda (1969) using the North-Hatt scale of occupational prestige and by Morris et al (1972) on the REISS scale as high prestige occupations. Both Burdge (1969) and Morris et al (1972) reported that, as a group, managers tended to be involved more than other groups in the community in structured leisure activities. Reasons offered for this difference vary from those which suggest that the higher level of education attained tends to broaden the individual's perspective toward leisure pursuits (Burdge, 1969) to those suggesting that the larger disposable incomes of this group provide a wider range of opportunity to participate in diverse types of leisure.

Other findings suggest that members in higher prestige occupations participate in relatively 'high brow' leisure activity (Bishop and Ikeda, 1969), and are more involved with outing or cultural activities (Dowell, 1967).

It is apparent that the type of activity involvement would indicate the preference for leisure. However the length and frequency of participation is also of interest to the recreation practitioner. White (1975) observed that

> ... persons sampled in higher prestige occupation groups not only participate in significantly more activities on average than lower groups, but also generally participate in them more freuquently.
>
> (White, 1975:196)

These results were also supported by Zuzanek (1978) who addressed the question of preference of involvement in leisure. His conclusions support the existence of relationships between leisure activities and occupational groups. The following statement is an indication of his findings:

> Sailing, golf, bridge, participation in high arts, to name a few, usually carry a higher occupational and class status, while bingo, softball, attending drive-in theatres, wrestling etc., are associated with the lower or lower middle class status.
>
> (Zuzanek, 1978:278)

Since managers have been classified by Burdge (1969) and Bishop and Ikeda (1969) to be high prestige occupations, it would seem that they would be more likely to participate in the higher status activities listed by Zuzanek.

Although support for these patterns of leisure activity involvement in specific occupational groupings is limited, the research indicates that further study would be worthwhile to help clarify this issue.

The Stress/Leisure Association

The association postulated by many writers who have examined the combined fields of stress and leisure is one of an inverse relationship, namely, as the incidence of stress becomes less severe, participation in leisure activity increases.

Howard (1976:29) has observed, by use of self report questionnaires, that "managers who attempted regularly to take exercise showed lower stress effects than those who did not." However, controlling for a specific variable is difficult and Howard maintains that,

> ... an individual's response (to stress) depends upon many variables, such as personality, cultural background, socio-economic status, age, sex, and occupation.
>
> (Howard, 1976:27)

It is evident that to control for all extraneous variables in order to isolate exercise or leisure as the only independent variable in the experimental equation would be an extremely difficult task. However, the conclusion that the reduction of stress is affected by exercise and/or physical

activity has been supported by other writers. Kiev and Kohn (1979) determined that executives who perceived less stress were more actively engaged with physical exercise. This situation is expressed somewhat differently by Albrecht (1979) but with essentialy the same meaning.

> ...it seems that the sedentary person handles stress much less effectively than the active, physically fit person does.
>
> (Albrecht, 1979:24)

Also, Hines (1974) indicated that recreation spells relief from many of the situations which appear to result from excessive stress in an employee's work environment.

This anti-stress aspect of leisure was approached from a normative perspective by Schmidt (1974), who indicated that the leisure practitioner should be responsible for ensuring that leisure is designed to reduce stress.

Research work by Heywood (1978:95)led to the conclusion that

> ... it can be inferred that [the] recreative experience does give rise to the relief of physiological stress and can be viewed as a possible antidote to the tensions, stresses, and anxieties that confront the individual from time to time.

The preceding discussion has highlighted the potential areas for research into associations between the variables stress and leisure, focussing upon the inverse relationship that has been observed.

The Management/Stress Association

Managers accept stress as an inevitable consequence of the job they perform (Peters and Benson, 1978). The importance of this finding is best explained in respect to life stages. Marcus (1979) has suggested that managers in their mid-life stage, defined as a period of time from 35 years to 50 years of age, are exposed to more stress now than at any other period of time in history(for that age group). The human body at this life stage has less of the regenerative resilience of youth and the agents, acceptance of stress and excessive stress, may prove to be the breeding ground for debilitating illness in this age group.

However, the amount of stress each manager is exposed to does not appear equal. The possible variations in size of organization and position held by each manager have been

evaluated as to the influence these variables have on the disabling effects of stress. Howard (1976) observed that managers in large companies reported a lower number of stress symptoms than those in small companies. Howard's (1976) research also uncovered additional elements, such as personality, cultural background, age and sex, which may influence the occurrence of stress symptoms. Managers tended to indicate that they experienced less stress as the length of time in their current position increased and also as they approached the upper management positions.

Probably the best explanations for these situations would be that the learning experience gained over time in any position enables the individual manager to expect and react to contingent events rather than being surprised or set back by them. Also, the increases in power and influence obtained at the top of the organization affords the individual the opportunity to influence the sources of stress rather than to simply adjust to them (Howard, 1976, 1983, Kiev and Kohn, 1979).

These observations imply that executive management may experience less stress than other managers. However, this is yet an unproven argument. Boyd and Gumpert (1983) reported that a New England sample of entrepreneurial executives suffered from many stress-related illnesses such as hypertension, gastric ulcers, and insomnia and that these problems occurred as a direct consequence of their executive work.

High stress levels have also been observed in groups of lower level management (Sasser and Leonard, 1980). Apparently, this stress results from either lack of control over operational situations or controlling the motivation of workers, or even understanding the objectives and policies of top management (Sasser and Leonard, 1980).

Changes in both the internal and external organizational environments may account for the different stress levels observed in management groups. Certainly an economic downturn is likely to affect all managers, yet the degree of influence this situation bestows on the sales manager may be significantly different than the situation it bestows on the production manager.

Other aspects of the stress and management relationship are the issues of personality types and the 'burn out' syndrome.

Rosenman and Friedman (1974) suggested that two distinct personality types existed and found that one was more prone than the other, in a ratio of 2:1, to exhibit symptoms of coronary heart disease. Of the two personality types, Type A, was characterized by hard driving, time conscious, exceedingly demanding, impatient and restless behaviors (Rosenman and Friedman, 1974; Sparacino, 1979). The other, Type B, characterizes essentially the opposite behaviors, typified by a more relaxed and calmer approach to life (Burke and Weir, 1980).

Many managers exhibit the Type A personality yet evidence to indicate that these Type A behaviors are necessary ingredients for an effective manager is not available. The primary conclusion, of Rosenman and Friedman (1974), emphasizes that Type A personalities may expect consequences of some form of coronary heart disease.

The second focal area is "burnout". Burnout occurs from persistent exposure to stress: it results from the accumulation of all stress over a prolonged period (Rummel and Rader, 1978). The consequences of this syndrome are important to the organization. Alexander (1980) described "burnout" as characterized by a pattern of depression, increased anxiety, nightmares, insomnia and decreased ability to bounce back. These symptoms are expressed in the workplace through increased dissatisfaction with work, declining performance, development of antagonism to work and increasing alienation from work. Levinson (1981) suggests that "burnout" produces feelings in managers which develop into a reluctance to continue with their activities.

The effects of "burnout" for the individual are reversible through rehabilitation and counselling, yet Alexander (1980) explains that these persons rarely, if ever, return to the work that caused the burnout syndrome. The effects of burnout are most costly to the organization for retraining and replacing lost personnel.

It is evident from this brief review that a great many variables may be seen to influence the effects of stress upon management personnel. Measuring these affects may be best achieved

by examining the occurrence of the events which induce stress in the manger work environment. A work-events stress methodology was developed by Kiev and Kohn (1979) which utilized many of the work stress variables outlined by Cooper and Marshall (1976), Howard et al (1976), and Yates (1979). These variables are presented diagramatically to show cause/effect relationships in Figure 2.

Conclusion

The conceptual foundations of the study variables have been explored in this review and a brief summary of these variables follows.

The manager has been examined by job functions and job responsibilities. The above method of measurement is more objective than any arbitrary designation of management by positional levels on the organization's hierarchial ladder.

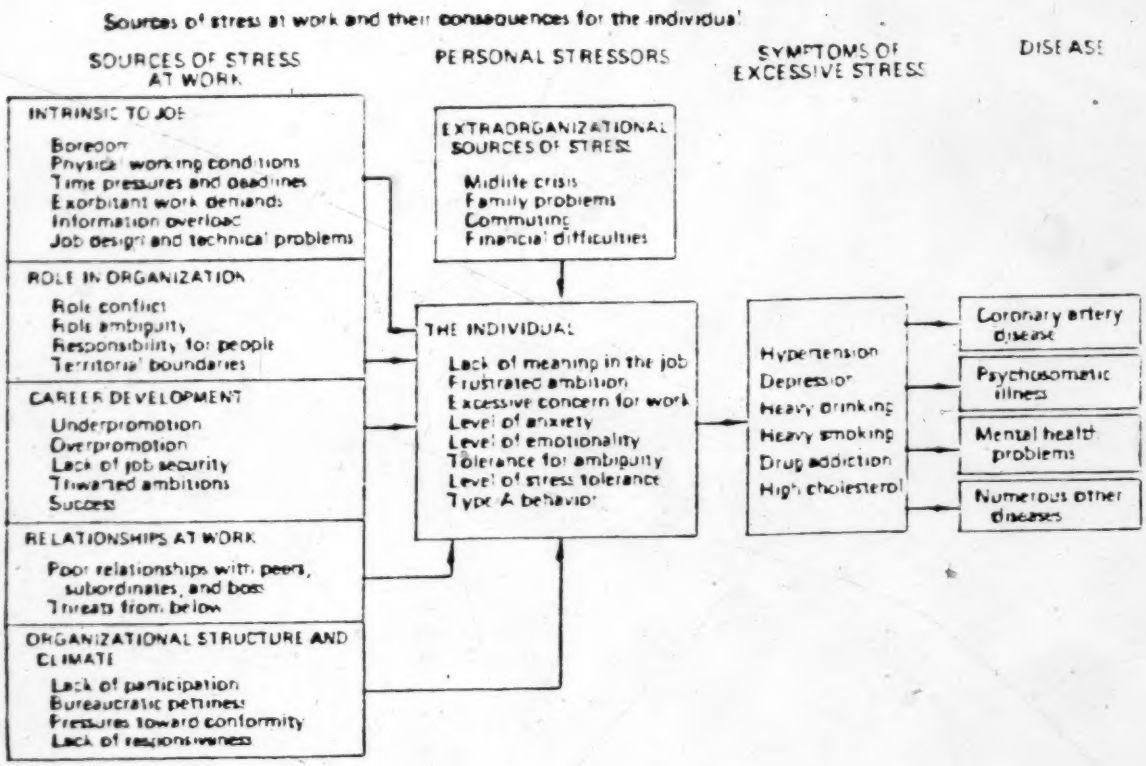
The controversy that surrounded the definition of stress in the 1960s appears to be abating with the acceptance of stimulus or casual agent as the major determining characteristic of stress. The life events scaling research provides an excellent methodological vehicle, in the S.R.E., for examination of stress from this stimulus, casual agent definition.

The recognition and discussion of the differences between the behavior of a "leisuring" individual and the appreciation of leisure by that individual was a focal point in the definition of leisure chosen for this study.

The review was completed by the presentation and explanation of research findings that examined the relationships between the study variables.

All methodological issues regarding the instruments, study frame and data analysis are presented in Chapter III.

Figure II



Adapted from Gary L. Cooper and Judi Marshall, "Occupational Sources of Stress: A Review of the Literature Relating to Coronary Heart Disease and Mental Health," Journal of Occupational Psychology, XLIX (London: 1976),p.12.

III. METHODOLOGY

This study, as outlined in Chapter 1, is exploratory. The difficulty with drawing conclusions from any type of research is well described by Myer's (1966) presentation of the inherent problems with experimental research.

> Drawing conclusions about a certain behavior would present no problems if the only variables affecting the behavior were those selected for study by the experimenter. Unfortunately, behavior is seldom so simply caused: it may be a function of such variables as the intelligence, prior experience, attitude, and age of the subject, the time of day at which the data are collected, and even the tone of voice in which instructions are read ... . However, since such 'irrelevant' variables do influence behavior, care must be taken to ensure that their effects are minimized for the duration of the experiment in which they are being studied.
>
> (Myers, 1966:5)

As indicated above, the 'irrelevant variables' which undoubtedly influence behavior should be minimized and often can be by a rigorous methodology. This reasoning, although founded on an experimental study base, is supportive of the exploratory research design which attempts to examine all possible influences upon a specific phenomenon.

The current chapter presents the methodology applied to this study in four sections, an examination of the instruments in the Questionnaire Package, the Pre Data Collection, the Data Collection, and the Analyses of the Data.

Questionnaire Package

As introduced in Chapter 1, the questionnaire package was comprised of several distinct instruments. This section will review these instruments emphasizing the value of their application to the study.

Demographic Instrument

The focus of the demographic questions was on information that might illustrate differences within the study population in age, sex, marital status, number of children, ages of those children, education, time with the organization, time in the current position, and the number of reporting levels between the respondent and the Chief Operating Officer and

between the respondent and nonmanagement personnel.

Findings in management and leisure studies have indicated that several of these specific variables outlined do affect the stress levels and the leisure participation rates of individuals. Marcus (1979) and Albrecht (1979) suggest that differences in age affect the level of stress experienced. Kiev (1974), Howard (1976) and Brocher (1979) independently found that as management responsibility alters, stress levels also change. Further to these results Marks (1967) found an inverse relationship between stress and education.

Similarly leisure studies have produced results indicating that changes in participation rates occur with changes in age (Zuzanek, 1978), with different levels of education (Romsa, 1973; Zuzanek, 1978), and with various perceptions of occupational prestige (Bishop and Ikeda, 1969; Burdge, 1969; Romsa, 1973; White, 1975). Further to these results Romsa (1976) has written that

> Age, marital status, number and age distribution of children, sex, and education are the most significant underlying socio-economic factors associated with frequency of participation.
>
> (Romsa,1976:41)

The items were presented indvidually in interval categories for ease of response (See, Appendix 1,p 112).

Job Responsibility

An eight item listing of management job responsibility statements was provided to collect information on the job functions performed by the study population. Each respondent was asked to rank these statements in the order of importance to his specific job. A ranking of 1 indicated the most important aspect of the job. Functions that were not performed by respondents were recorded as N/A (not applicable).

This portion of the questionnaire package provided a list of responsibilities, from planning functions to people management and policy making, and directly followed the demographic data section. The importance of these functional categories was outlined in Chapter 2.

The Schedule of Recent Experience

Three instruments were utilized to assess the variable stress. The first of these was the Schedule of Recent Experience (SRE). It is a recall questionnaire which focuses upon "the occurrence of particular events in an individual's recent life experience" (Amundson et al., 1981:3). The SRE has been adapted to suit various time frames. The one utilized for this study was one year. The basis for life event study (as per SRE) is clearly explained by Amundson et al., (1981).

> There was one theme common to all the life events. The occurrence of each event usually evoked or was associated with some change and adaptive behavior on the part of the involved individual. The wording of each SRE item thus emphasizes change from the existing steady state and not psychological meaning, emotion, or social desirability.
>
> (Amundson et al., 1981:3)

Initially the SRE, developed by Holmes and Rahe (1967), was applied to define the predictability of a health change occurring after life changes and the data from Holmes and Rahe's(1967) study did in fact show "clearly that many diseases had their onset in a setting of mounting social change" (Amundsen, 1981:34). Extending this discussion Hogan and Hogan (1982) suggest that:

> These scales provide the basis for perhaps the most active current area of stress research. Retrospective investigations using either the SRE or the SRRS have demonstrated a linear relationship between mounting life change and cardiac death, myocardial infarction, fractures, accidents, diabetes, leukemia, and infectious diseases ... .Prospective studies, a large portion ofwhich were conducted with Navy personnel, have also provided modest support for the hypothesized relationship between life change and illness onset ... .Given the range of populations studied and the range of pathologies implicated, the phenomenon and the instruments used to assess it must be fairly robust.
>
> (Hogan and Hogan, 1980:150)

These authors attempted to coalesce the theoretical and empirical application to understanding stress. However they discovered that,

> The most popular theory (psychoanalysis) has not generated any useful (ie., valid and reliable) measures, and the most useful measures (SRE, SRRS) are unrelated to the most important theory.
>
> (Hogan and Hogan, 1982:155)

Research, utilizing Holmes and Rahe's (1967) SRE and SRRS, has found that the questionnaire and the scale are reliable and valid tools for assessing stress independent of cultural differences (Masuda and Holmes, 1976; Komaroff et al., 1968; Rahe, 1969; Harmon et al, 1970; and Woon et al, 1971) and of demographic differences (Rahe, 1969).

The instrument utilized in this study included an additional section which required respondents to indicate when during the year the experience of life events occurred.

Although the SRE has been reported to be well validated and reliable, this study focussed upon differences between members of a specific population and it was necessary to apply additional instruments to overcome possible deficiencies in data collection that may have arisen from utilizing only the SRE. For this reason the job stress questionnaire developed by Kiev and Kohn (1979) and the self report were applied to supplement the collection of stress data.

Job Stress Instrument

The job stress instrument was developed by Kiev and Kohn (1979) from a survey examining managerial stress among over six thousand members of the American Management Association. The purpose of the study

> ...was to investigate managers perceptions of stress in terms of 1) what managers define as stressful on the job and off the job, 2) how they cope with stress, and 3) the extent to which they experience stress.
>
> (Kiev and Kohn, 1979:2)

The first objective of that study produced the instrument used in the present study. It is a twenty-two item questionnaire utilizing a four point Likert scale. This scale was adapted in the present study to a five point Likert recording procedure in order to differentiate between the categories of "Never" and "Seldom" which had been combined in the Kiev and Kohn(1979) study. Two major aspects of managerial stress were the focus of the Kiev and Kohn study's first objective of defining stress on and off the manager's job. These were

> ...personal factors (aspects specific to the manager's job, amount of change at work, and personal feelings about the job); the other question covered interpersonal transactions and organizational structure, policies and practices.

(Kiev and Kohn, 1979:20).

This instrument was tested by the developers for internal consistency and was found to be acceptable. They concluded that, "the survey findings are meaningful for a population of managers and expand our knowledge and understanding of executive stress" (Kiev and Kohn, 1979:2).

Many of the twenty-two items in this questionnaire have been previously utilized to determine occupational sources of stress (Cooper and Marshall, 1976) and to provide understanding prior to developing techniques for managing stress (Yates, 1979). Howard (1976) in an examination of stress and survival on the job also found many of the same variables used in the Kiev and Kohn (1979) instrument. Although research on management stress applying this instrument is limited, the variables contained within it have been utilized for investigations into various aspects of stress and management.

Self Report of Stress

To account for individual perceptions and definitions of stress and to assist in establishing an understanding of stress by the study population, a third instrument was included. This instrument is an open ended question which asks the respondent to offer his personal explanation of the term "stress" in relation to its quantity and effects on him within a one year time frame. This instrument was considered to be an opportunity for respondents to add any additional comments and information which they felt pertinent to the study of stress in general.

Leisure Activity Listing

The final section of the questionnaire package was reserved for collecting data on leisure activity participation. The leisure activity listing presented in the package was developed from several leisure activity lists, of which the Leisure Activity Blank (LAB) created by McKecknie (1974) was the base. McKecknie's LAB is an instrument

> ...created to 1) collect in a standardized form, a wide base of information from individuals or groups of persons on their past leisure and recreation behavior, as well as their intended future involvement in such activities; 2) provide normative data on the statistical organization of these activity patterns; and 3) explore the psychological meaning and implications of self reported involvement in the various recreation clusters.
>
> (McKecknie, 1975:5)

The first purpose of the LAB is of primary interest, with the subsequent purposes beyond the scope of the present study. McKecknie (1975:6) has stated that the "L.A.B. consists of a set of 120 recreation activities judged to have high participation rates in the U.S.". This element along with the fact that the LAB was developed utilizing a Marin County, California population "that is somewhat of a 'recreation ideal'" (McKecknie, 1975:11), creates difficulty for application of the instrument to non American populations with major geographical and environmental differences.

The thorough listing of recreation and leisure activities of the LAB was the basis for the development of the leisure activity listing applied in this study. To supplement and focus the LAB toward simulating the recreational activities of an Edmonton, Alberta population, an examininations of nine Canadian recreation surveys (See Appendix 2,p 127) was undertaken in order to isolate activities pertinent to this population. These identified activities were subsequently included in the leisure activity listing used in this study.

This final instrument was accompanied by a duplicate leisure activity listing which asked respondents to indicate those time periods of the year when activities were either initiated or terminated. This portion was designed to provide data that would correspond to the time sequences of the occurrence of life events from the SRE and thus provide a means to discover if change in leisure activity participation occurred with change in stressful life events.

Selection of the Management Population

The organizations that were approached to assist with the research were comprised of agencies from municipal and provincial government bodies located in Edmonton, Alberta (See p 4, Chapter 1).

The decision to survey public rather than private organizations was based upon assumed organizational functional similarities of responsibility and structure.

Although performing various functions, the participating organizations are all either directly or indirectly responsible to the public constituents of their region. A common factor exists amongst public organizations, this being that public clients are the prime consideration of this type of organization (Hall, 1977). These types of service/public organizations are also similarly controlled in public attachment by limitations regarding budgets, distinct geographical boundaries and predetermined staff sizes (Hall, 1977:118).

The desired structural form of participating organizations was of peaked shape, where each organization exhibits several distinct levels below a chief executive officer or counterpart (e.g. Deputy Minister). This requirement resulted in accessing a group of managers with various functional responsibilities among different hierarchial groupings and enabled the categorization of managers by function rather than by organizationally described hierarchial level.

Within each organization the degree of formalization will vary, due in part to the organization's size and/or functions. The requirement of determining specific functions for each manager is possible in a formalized organization where the codifying of jobs occurs under specific descriptions of tasks and responsibilities. Of the organizations participating in this research none appeared radically different in this structural component.

An additional structural variable which was utilized to determine organization participation was the orientation of the organization's labor. More labor specific structures have specialized divisions and these divisions provide access to managers of diverse functional responsibilities.

The organizations which participated in providing the access to management personnel met two conditions, these being 1) similar functional responsibility, that of service to the public; and 2) similar structural arrangement of the organization, with moderate formalization and labor specific orientation.

Description of Management Population

Each organization in Edmonton that was approached to participate in the study was required to provide access to between six to ten managers. On completion of the data collection the total responses were obtained from forty-six male and seven female managers from various functional groups. The small sample of female managers (N=7) was removed from analysis to avoid distortion of the results on the basis of gendre. The data obtained from the male manager (N=46) population is the base from which analyses are made in this study. This investigation recognizes that this population of managers is a specific case within the population of all managers of public agencies in Edmonton. Generalizations to the larger population are not possible.

Pretest of the Questionnaire Package

A pretest study was conducted to eliminate potential difficulties in the survey instrument package. Participants for this phase of the study were selected on the basis of ease of contact, position in their organization, and their research experience. The participants of the pretest were four male and three female managers of recreation related agencies. The pretest occurred with all seven packages complete. The questionnaire was modified as a result of this procedure and its final form is located in Appendix 1.

Data Collection Procedure

Data collection occurred in several phases. The first was the development of a list of potential agencies within which the research study could be performed. This phase was completed in conjunction with several members of the Institute of Public Adminstration of Canada, Edmonton Regional Group(I.P.A.C.).

The second phase of the procedure established the contact with the legitimate authority, either the executive director or deputy minister, of each agency: this individual was approached in order to obtain permission for that agency to participate in the research. All initial contacts

were made by telephone and confirmed through written requests to establish the legitimacy of the research. An example of this written contact is presented in Appendix 3.

The third phase of the data collection procedure was the arrangement of a series of personal meetings that introduced the researcher to the agency contact person. These meetings had the purpose to: 1) describe the research in depth; 2) answer any concerns that the agency had regarding the research procedures and requirements; 3) determine if permission to participate in the research would be granted; and 4) establish a group of potential respondents within the agency to whom the questionnaire package would be forwarded.

On completion of the above phases, arrangements were made to distribute the questionnaire packages to potential respondents. Two methods of distribution were used. The first required the agency "contact" person to act as distribution and reception point of all questionnaires within that agency. This procedure was the favored approach by those utilizing it and relied upon internal memos to describe and distribute the research package to all potential respondents in the agency. The researcher maintained telephone contact with the agency person and served as the agent of delivery and collection of questionnaire packages. This process was applied to four of the six agencies.

The second method relied upon the researcher to establish contact and obtain commitment to participate from potential respondents. Lists of management personnel within the agency were provided by the agency contact person at the personal meeting (phase 3 above). These lists consisted of specified numbers of personnel who met the requirements of the research study. Telephone contact occurred with these potential respondents and those willing to participate were delivered a questionnaire package with instructions to return the completed schedule by mail. Within each of these schedules a stamped, self addressed envelope was included.

Return rate of completed schedules was exceptionally high at 95%. Follow-up procedures with those not completing schedules was attempted by further telephone contact but due to holiday schedules this did not result in any additional returned schedules.

Techniques Applied to Analyzing the Data

The primary consideration of this study was the investigation into the stress and leisure relationships of male management personnel. Subsequently the male and female responses were separated into data files with the file for male respondents becoming the main data base.

Analysis of the information collected by the instrument package was conducted by focussing upon each of the study variables. Individual analysis of these study variables was necessary because of the complexity of the information obtained. Discussion of the analysis techniques applied to this information is presented in conjunction with each of the study variables.

The statistical analyses utilized to interpret the data relied upon appropriate techniques contained within the Statistical Package for the Social Sciences (S.P.S.S.) prepared by Nie et al (1975).

All demographic data were subjected to an initial analysis procedure called the FREQUENCIES program which produces descriptive statistics, the measures of central tendency (mean, mode, median, range, standard deviation, skewdness, kurtosis; Nie et al, 1975:201). The value of applying this technique to all the data is a result which provides a composite grouping of the information.

The segment of the data collection instrument that focused upon management function was designed to obtain information that would indicate the responsibilities of each individual manager. The respondents were asked to rank, in order of importance to their specific job, the eight managerial job responsibility statements listed in this portion of the questionnaire.

Two methods for rank order correlation were available for use, Kendall's tau and Spearman's rho. The choice of analysis technique depended entirely upon the data.

> The chief differences between Spearman's rho and Kendall's tau seem to be that the Kendall coefficients are somewhat more meaningful when the data contain a large number of tied ranks. Spearman's rho, on the other hand, seems to yield a closer approximation to the product-moment correlation coefficients when the data is more or less continuous, i.e., not characterized by a large number of ties at each rank.
>
> (Nie et al, 1975:289)

Since the management functions data were characterized by few numbers of ties at each rank, the Spearman's rho rank order correlation was used.

The total life stress experienced within a year was the sum of the items on the SRE. The weighted responses of the SRE were tabulated according to the scoring instructions (Appendix 4), which resulted in a value of the total life change units experienced by that respondent. The total value of job stress was determined by following a five point Likert scoring procedure that produced a numeric value that represented the total job stress experienced by each individual. Unlike the total life stress and job stress variables there was no preset scoring method available for the stress self report. The approach that summed this variable arbitrarily set clearly defined responses to an equal value of one and totals were determined by the numbers of responses by each respondent.

The activities of the leisure list were subjected to three different types of analysis. The first was the FREQUENCIES program of S.P.S.S. (Nie et al, 1975). The participation rates in each activity were one focus which required some scrutiny prior to subjecting the leisure data to further analyses. All activities (7) that received a zero participation rate were eliminated. On further examination an additional group of activities (22) appeared to have no current active participation and so were excluded from the second analysis, that of the FACTOR program from S.P.S.S.

The FACTOR program of S.P.S.S. includes the principal component solution with varimax rotation factor analysis method utilized by McKecknie (1975:16). The similarity of the leisure listing of this study to the Leisure Activity Blank of McKecknie (1975) has already been discussed and it is thought that application of the same analysis method might produce similar factor groupings.

The third analysis applied to the leisure participation data, was the CLUSTER analyses of the new S.P.S.S.X. Cluster analysis grouped the data cases (individuals) into similar activity patterns. These results provide the opportunity to investigate leisure activity participation on a group basis.

The final analyses applied the Pearson's product moment correlation for relationship testing. This procedure was conducted with the application of the SCATTERGRAM program of S.P.S.S. which graphically portrays the distribution of the relationship of the variables under scrutiny. computed by this program include Pearson's r, r^2, significance of r and the slope of the regression line. (Nie et al, 1975:297).

This chapter has presented the methodological procedures conducted for this study. These procedures have examined the data collection components of the questionnaire, the methods leading up to and including the application of this data collection schedule and the types of methods used to analyze the data.

Discussion and presentation of findings from the statistical analyses follow in Chapter IV.

IV. FINDINGS AND DISCUSSION

The previous chapter discussed the methodology involved for the data collection schedule with specific attention paid to the instruments in the questionnaire package. The initial portion of this chapter descibes the demographic data of the male sample.

Age

TABLE 1 presents the distribution of age in terms of frequency and percentage. Respondents were instructed to select the age category which best represented their age. Numerical values were assigned to each on the base of this category rather than chronological age.

TABLE 1

AGE DISTRIBUTION OF MANAGERS (N=46)

Age Category (years)	Frequency	Adjusted Frequency
1 (under 30)	4	9
2 (31-35)	12	26
3 (36-40)	5	11
4 (41-45)	8	17
5 (46-50)	5	11
6 (51-55)	7	15
7 (56-60)	5	11
	mean=3.8	standard deviation=1.9

The range in age category for this population of managers was from the age category of under 30 years to the category of 56-60 years. The lowest frequency in age category of managers was in the under 30 years age bracket, yet the highest frequency occurred in the next category , that of 31-35 years, with a total of 26% of respondents being in this age bracket. As observed from TABLE 1, the other respondents were fairly evenly distributed.

The mean age of respondents was determined to be at a point approaching the fourth age bracket of 41-45 years or approximately equal to 39 years of age with a standard deviation of 9.6 years.

Marital Status

The variable marital status, presented in TABLE 2, reflects a predominantly married population.

TABLE 2

MARITAL STATUS OF MANAGERS (N=46)

Category	Frequency	Adjusted Frequency
1 (single)	4	9
2 (married)	37	80
4 (separated/divorced)	4	9
4 (widowed)	1	2

The distribution of responses to marital status ranged from being single, to being married and living together, to being in various stages of marital demise, through to the status of widowed. The response of 'living together' was given in 2% of replies, and was subsequently grouped under the heading of 'married'. As illustrated in TABLE 2, the majority of responses to this demographic variable were 'married' which was also the modal point in the distribution.

Number of Children

The size of family was determined by the number of children within the family unit. The range of replies to this variable was from zero child families to families having more than four children.

TABLE 3

NUMBER OF CHILDREN IN MANAGER FAMILIES (N=46)

Category	Frequency	Adjusted Frequency
zero	8	17
one	8	17
two	15	33
three	10	22
four	3	7
more than four	2	4
	Mean=2.9	Standard Deviation=1.3

It is apparent from TABLE 3, which clearly illustrates the complete distribution of family size, that the majority of managers from this study population have established family units consisting of at least one child.

Age Grouping of Children

This variable measured the age range of children in the manager's families. Categories were formulated to represent specific age groups of children as illustrated by TABLE 4.

TABLE 4

AGE GROUPINGS OF MANAGER'S CHILDREN (N=46)

Category	Frequency	Adjusted Frequency
1 (preschool age)	6	13
2 (elementary school age)	5	11
3 (teenage)	4	9
4 (older than teenage)	5	11
5 (older two groups, 3,4)	12	26
6 (younger two groups, 1,2)	4	9
7 (middle two groups, 2,3)	1	2
8 (mixed groups, 1,2,3,4)	1	2
9 (zero children)	8	17
	Mean=3.3	Standard Deviation=2.3

Children's ages ranged from those at preschool age through to the category of older than teenage. A total of 41% of families had children in more than one grouping and these families were distinguished by the age categories of younger, middle, mixed and older aged groupings.

The highest frequency of child age groupings occurred in the category of older groups and when this category was combined with the individual categories of teenage and older than teenage, this family unit of older children represented a frequency of 46% of the responses obtained. Similarly when combining the younger age groups of children, the results indicated that 33% of respondents had family units of younger children. Two distinct age groups appear to exist in the study population, those with younger children, and those with older children.

These patterns may be useful in explaining a specific family oriented leisure activity participation by this manager population.

Education

Education, as an influence on leisure participation, was briefly explained in Chapter 2. TABLE 5 depicts the frequency distribution of the respondents by educational level attained.

TABLE 5

EDUCATIONAL ATTAINMENT OF MANAGERS (N=46)

Category	Frequency	Adjusted Frequency
1 (highschool)	2	4
2 (some college)	1	2
3 (college diploma)	2	4
4 (some university)	9	20
5 (university degree)	12	26
6 (graduate degree)	20	43
	Mean=4.9	Standard Deviation=1.3

The range in educational attainment was from high school completion to the acquisition of graduate degrees. This frequency distribution resembles an exponential curve instead of a normal curve with a total of 89% of the respondents indicating they had at least attended university and the attainment of graduate degrees receiving 43% of the responses.

The conclusion from this examination of the frequency distribution indicates a well educated population of managers.

Length of Time with the Organization

The length of time an individual works within an organization has been postulated,(see Chapter 2,p.33) to be related to the level of stress that the individual experiences in the work environment. This variable was measured in terms of years of service and described in TABLE 6.

TABLE 6

SERVICE TIME OF MANAGERS TO THE ORGANIZATION (N=46)

Years with Organization	Frequency	Adjusted Frequency
1 year or less	5	11
2 years	6	13
3 years	10	22
4 years	16	35
5 years	8	17
10 years	1	2
	Mean=3.15	Standard Deviation=1.4

Respondents' service to their organizations ranged from a low of one year or less to a high of ten years. The mean of this distribution was slightly over three years. A period of service from three to five years described 74% of the respondents and only 11% had one year or less of active service with their organization.

Length of Time in Current Position

Like the previous variable, the length of time in the current position or functional role of work and its association with the level of experienced stress has been discussed (see Chapter 2, p.33). This variable was also measured in years and its distribution is presented in TABLE 7.

TABLE 7

LENGTH OF TIME SPENT BY MANAGERS IN THEIR CURRENT POSITION (N=46)

Years in Position	Frequency	Adjusted Frequency
1 year or less	13	28
2 years	10	22
3 years	13	28
4 years	6	13
5 years	3	7
10 years	1	2
	Mean=2.6	Standard Deviation=1.5

The length of time respondents' have been positioned in their current work role extends to a maximum of ten years. Two groups of respondents account for 56% of all responses those having spent one year(or less) and those having spent three years in their current positions. The average time spent in the work position is slightly over two and one half years and only 2% of respondents indicated that the time spent in their position exceeded five years.

Position of the Individual in the Organization

Determining the position of an individual within his organization was obtained by examining two related variables. These variables compared the individual's position to the Chief Operating Officer (C.O.O.) and to the non-management personnel (line work flow positions). The results of the first variable are presented in TABLE 8.

These results indicate that of the respondents, three were the C.O.O. himself and the remainder ranged to five positions below. The total group of managers was positioned very close to the C.O.O., with only 20% indicating that their position was more than two positions

TABLE 8

NUMBERS OF POSITIONS BETWEEN THE C.O.O. AND THE RESPONDENT (N=46)

Category in Number of Positions	Frequency	Adjusted Frequency
zero	3	7
one	18	39
two	16	35
three	5	11
four	3	7
five	1	2
	Mean=1.8	Standard Deviation=1.0

removed from the C.O.O. The mean of the distribution was almost two positions below the top of the organization.

The number of positions between the manager and his line work flow ranges to a maximum of six (TABLE 9). However an interesting element is exposed by this examination: the majority of the respondents (51%) were just one position removed from the line work flow positions. This element combined with the results from TABLE 8, suggests that several of the organizations sampled in this study have very flat management shapes because of the limited numbers of management levels between the C.O.O. and the line work flow positions.

The study population exhibits several demographic characteristics which are points of comparison for the study variables, stress and leisure. The ages for these men range from under 30 years up to 60 years. This distinction is useful in the examination of the relationships between both stress from life events and on the job and in the recorded leisure patterns of these managers.

The majority of respondents was married with small families. The age grouping of their children varied from preschoolers to young adults indicating that the group studied was maritally stable and was exhibiting various stages in the family cycle.

TABLE 9

NUMBER OF POSITIONS BETWEEN THE RESPONDENT AND THE LINE-WORK FLOW POSITIONS (N=46)

Category in numbers of positions	Frequency	Adjusted Frequency
one	23	51
two	9	20
three	9	20
four	2	4
five	-	-
six	2	4
Missing Cases=1	Mean=2.0	Standard Deviation=1.3

The education level attained ranged from high school diplomas to graduate degrees. This characteristic is also of interest in further analyses with the main study variables in order to compare this study group with those described in the literature.

Most respondents have been with their present organization for 5 years or less and in their positions for 3 years or less.

The indication from the two variables which recorded the position of an individual within the hierarchy of the organization is that the agencies sampled for this study exhibit a flat structure and therefore meet with the intention to survey managers from organizations with structural similarities.

Based on this discussion, further examination of the demographic characteristics with the study variables is restricted to age and education.

Management Function

The second phase of the questionnaire dealt with the management functions that the study group performed on a regular basis. This portion of the instrument had respondents rank, in order of importance to their specific jobs, a list of management job responsibility

statements. The information collected was analyzed by applying the Spearman's rho rank order correlation procedure.

TABLE 10 illustrates the actual correlation coefficients obtained through the use of this statistical test.

A clear correlation is shown to exist between the functions of: organizing tasks for subordinates; making staff appraisals; performing staff selections; and the supervision of subordinates. These functions all correlate with one another (correlation coefficients .40). These results give sufficient justification to group these functions together under a single descriptive title, that being SUPERVISORS OF PEOPLE.

The other correlation figures, at first viewing, do not suggest as clear a pattern as that obtained for the supervisor group of managers. The most significant correlation coefficient for the function, "responsible for the provision of planning input into the policies, programs and procedures on a division wide basis", is found to exist with the function, "budget, staffing and inventory control" and is $r=.31$ with a significance level of .01. Also the function "having direct input into the policies for the organization" correlates highly with the function "planning input on a division wide basis", with $r=.30$ at a significance level of .01. This finding resulted in an investigation of the correlation between the functions of: "budget, staffing and inventory control" and "organizational policy input". This examination determined that these two functions do not correlate highly as the correlation coefficient $r=.16$ at a significance level of .12.

Further investigation of the correlation coefficients of TABLE 10, has found that the functions, "organizational policy input", and "reporting to the board of directors", are highly correlated in this study sample ($r=.33$). Also the correlation coefficient between the function, "reporting to the board of directors" and the function, "planning input to programs, policies and procedures" shows a very low correlation ($r=.08$).

These investigations have lent support for grouping these four functions into two separate units. The functions, (i) planning programs, policies and procedures, and (ii) budget,

TABLE 10

RANK ORDER CORRELATIONS MATRIX
OF MANAGEMENT FUNCTIONS (N=46)

management functions	planning policy programs & procedures	organize tasks for subord-ordinates	staff appraisals	staff selection	subordinate super-vision	budget, staff inventory control	organization policy input	report to board of directors
planning policy programs & procedures	1.0							
organize tasks for subordinates	.05	1.0						
staff appraisals	•.20	†.60	1.0					
staff selection	.17	†.49	†.73	1.0				
subordinate supervision	.12	†.60	†.50	†.40	1.0			
budget, staff & inventory control	†.31	†.28	†.30	†.31	†.29	1.0		
organization policy input	†.30	.04	.15	.17	.05	.16	1.0	
report to board of directors	.08	.07	.04	.09	.01	.02	+.33	1.0

• significant at .1% level
+ significant at .05% level
† significant at .001% level

staffing and inventory control appear to be best suited as a unit (r=.31) with the title of PLANNER as the descriptor for the group. The remaining two functions, (i) reporting to the board of directors, and (ii) providing organizational policy input, are grouped (r=.33) under the heading of POLICY MAKER.

The results of the Spearman's rho rank order correlation analysis has illustrated three distinct groups of managers.

The first group consisted of managers who highly ranked the functions, provision of planning input into policies, programs and procedures on a division basis and the function input to the division through budgets, staffing and inventory control. Persons ranking these functions as the most important aspects of their jobs have been broadly classified by the descriptor, PLANNER.

The second group of managers rank ordered the functions: organizing and assigning tasks for subordinates, making staff appraisals, hearing input into the selection of candidates for staff positions, and directing subordinates through supervision and guidance. For purposes of later referencing, managers who ranked these functions as the important aspects of their jobs, were assigned the descriptor, SUPERVISORS of PEOPLE.

The final group of managers was responsible for ranking the two functions, having direct input to the policies for the organization and reporting to other executive on the direction of the affairs of the organization, as the most important aspects of their jobs. These managers were assigned the descriptor, POLICY MAKERS.

Stress

The third questionnaire collected information on life events stress and job stress. Also included was an open-ended question which gave respondents the opportunity to elaborate on concerns they had regarding aspects of stress not included in the two main instruments that affected them in the past year. This information was subjected to the FREQUENCIES analysis of S.P.S.S. and the results of this scrutiny are discussed below.

Schedule of Recent Experience:

The Schedule of Recent Experience (SRE) was utilized to obtain data of the experiences by individuals on a list of life events. The intention of the Holmes and Rahe (1967) Social Readjustment Rating Scale, of which the SRE is the data collecting instrument, was to assess the total amount of life change a person experiences within a specified time period and determine the effects this change had on the health of the individual. Subsequently, Holmes and Rahe found it necessary to assign numerical values to each life event and to tabulate the total life change experience by the individual. These researchers coined the phrase Life Change Units (L.C.U.) to represent the numerical value of life change experience and classified these L.C.U. into three distinct categories. These were developed from research results indicating that

> ...the more life change that occurs the greater the likelihood of illness. The following criteria have been established to evaluate the L.C.U. scores for the previous year:
> 1. Over 300 L.C.U. = 80% chance of illness in the near future
> 2. 150-299 L.C.U. = 50% chance of illness in the near future
> 3. Less than 150 L.C.U. = 30% chance of illness in the near future
>
> (Amundson et al, 1981:4)

The results presented below represent the summation of life change units experienced by respondents. The responses to the SRE were tabulated according to the scoring procedure supplied by Holmes et al (1981) which is included in Appendix (4).

TABLE 11 illustrates the amount of life change experienced by the study population. The Table shows that those respondents who had low levels of life change were far below the grand mean of the entire group of managers and it is also noteworthy that a full third of the study group were to be found in this low stress category. The largest group of managers, those found in the 150-299 life change unit range account for over half of the respondents in the study and the amount of life change they experienced, on average, very nearly approximates the average change that occurred in the entire sample.

A large proportion, two thirds in all, of the managers experience high levels of life change (combining category 2 and 3). A comparison of these results with the Amundson et al (1981) conclusions that illness likelihood increases as life change unit values increase, produces concern about possible negative health changes in this study population. Certainly the fifteen

TABLE 11

STRESS AS MEASURED BY LIFE CHANGE (SRE) (N=46)

Category	Frequency	Adjusted	Mean of Category
1 (0-149 L.C.U.)	15	33	69.3
2 (150-299 L.C.U.)	24	52	244.0
3 (300 plus L.C.U.)	7	15	473.3
Grand Mean=262.2		Standard Deviation=22.7	

percent of managers who experience more than 300 life change units are high risk candidates for changes in their health.

Job Stress: The instrument used to gather data about job stress, developed by Kiev and Kohn (1979), was scored originally on a four point Likert scale. In this study a five point Likert scale was applied which created a range of possible scores from twenty-two to one hundred and ten. The frequency distribution of the responses is displayed in TABLE 12.

For the study population the numerical values of job stress ranged from 26 to 71 units. One case had to be dropped from analysis because of insufficient responses. The measures of central tendency, mean, mode and median were very closely located in the distribution: the mean of job stress was 49 units, the mode 50; and the median 51.

Kiev and Kohn (1979), however, did not extend their findings to include the values of total job stress as is illustrated in TABLE 12. These authors concentrated upon the frequency distributions of individual items within the instrument in an attempt to determine what job characteristics were most responsible for creating stress on the job. The same process has been undertaken in this study which clearly illuminates the job characteristics considered by the study group to be stressful. TABLE 13 illustrates these sources of stress on the job.

TABLE 12

DISTRIBUTION OF TOTAL VALUE OF JOB STRESS (N=46)

Numerical Amount of Stress	Frequency	Adjusted Frequency
26	1	2
30	2	4
32	3	7
34	1	2
36	1	2
39	1	2
40	1	2
42	1	2
43	1	2
46	1	2
47	1	2
48	1	2
49	2	4
50	4	9
51	2	4
52	2	4
53	2	4
54	1	2
55	1	2
56	2	4
57	3	7
58	1	2
59	1	2
60	2	4
61	1	1
62	1	1
63	1	1
64	1	1
65	1	1
70	1	1
71	1	1
Missing Cases=1	Mean=49	Standard Deviation=12.4

TABLE 13

SPECIFIC SOURCES OF JOB STRESS (N=46)

SOURCE	Frequency						Mean	S.D.
	never (1)	seldom (2)	some-times (3)	often (4)	veryoften (5)	missing		
Heavy Workload	1	2	18	18	6	1	*3.5	.13
Long Hours	7	7	15	6	7	4	*2.7	.19
Excessive Travel	15	22	6	0	0	3	1.7	.21
Insuf-ficient Income	10	18	10	4	0	4	2.0	.13
Changes in Respon-sibility	11	15	9	6	1	4	2.1	.16
Changes in Work Conditions	12	17	4	6	1	6	1.9	.16
Compromising Principles	11	21	11	1	0	2	2.0	.11
Fear of Failing	8	12	22	3	0	1	2.4	.13
Disparity of Capability	3	13	24	3	1	2	*2.6	.12
Anxiety about Job Security	6	18	12	5	2	3	2.3	.15
Threat to Self Respect	16	20	6	2	0	2	1.8	.12
Lack of Feedback	6	10	25	3	1	1	*2.6	.12
Unsatisfying Work With Superiors	10	22	9	3	1	1	2.1	.12
Unsatisfactory Work With	12	20	11	0	0	4	1.8	.11

Subordinates								
Unsatisfying Work	10	20	11	0	0	4	1.8	.10
With Colleagues								
Competition From Minorities	17	24	2	0	0	3	1.5	.08
Uncertain of What's Expected of Self	11	20	2	0	1	2.3	.12	
Lack of Authority	10	20	12	3	1	0	2.2	.16
Lack of Advancement	10	15	13	4	2	2	2.3	.16
Politics Within Organ-ization	1	8	16	15	3	3	*3.0	.14
Uncertain About Organ-ization's Future	2	17	17	5	1	4	2.4	.13
Changes in Organ-izational Structure	6	17	13	7	0	3	2.3	.14

* items exhibiting a mean of greater than 2.5.

On examination of the frequency TABLE 13, the sources of job stress, it is evident that the items considered to create most stress (mean>2.5) by the study population are: heavy workload, long hours, disparity between a manager's responsibilities and goals, and the expectations of him by the organization, lack of feedback and the political climate within the organization.

These findings directly support the results of Kiev and Kohn's (1979) study.

> ...the most stress-producing factors are work and time pressures, disparity between a manager's goals and the expectations of the organization, the 'political' climate of the organization, and the lack of feedback on job performance.
>
> (Kiev and Kohn, 1979:2)

The support of the earlier results emphasizes the potential for the research application of the job stress instrument. Although additional study will be required, this instrument appears to be useful in the area of stress study.

Self Report on Stress:

The instrument used for gaining further insight into the manager's perceptions of stress through means of a self report was an open-ended question. The intent was to elicit personal responses concerning the amount of stress experienced during the specified time frame of one year. This gave each manager the opportunity to identify and discuss aspects of stress that had not been revealed by the other two instruments.

All responses to this self report were examined and similar concerns were grouped. Five distinct categories emerged from this process. These categories were: stress from work, stress of a personal nature, stress from family concerns, the attitude that stress was not a concern, and the value of recreation as a stress reducer. The frequency of these responses is presented in TABLE 14.

TABLE 14

RESPONSES TO THE SELF REPORT ON STRESS (N=42)

Response	Frequency	Adjusted Frequency (percent)
stress from work	42	44
stress on a personal nature	33	34
stress from family concerns	9	9
stress is not a concern	6	6
stress is reduced by recreation	6	6

Similarity between the responses given in this self report and the SRE and the Job Stress instrument is apparent with all but 12 percent of responses fitting into either the category of life events or the work environment. These non-aligned responses focused on, stress as not being an individual concern, and on recreation as a stress reducer.

The value of such a self report is that it enables respondents to clarify concerns about the main study area and also provides the researcher with insight into the completeness of the survey instrument and also it identifies potential areas for future study. Additional discussion about the results from the Self Report is limited to the fact that 6 percent of the responses to this instrument indicated that some members of the study population believe that recreation served them as a stress reducer. This finding is of interest to the present study and discussions about the relationships between an individual's leisure activity participation and the stress he experiences both in life events and on the job are presented later in this chapter.

The investigation into stress and the manager has produced findings which show that this population experienced varied amounts of stress as indicated from the low to high stress recordings of life change units obtained. The average stress experienced by the study group was inclined toward the high level of the life change scale, suggesting that portions of this group have experienced potentially damaging levels of stress over the course of the time period covered by the study.

Also of value in the results are corroborative findings which indicate that specific organizational factors do induce stress. These factors are: time and work pressures, "politicking" within the organizational structure, disparity between the goals of a manager and the organization's expectations of him, and the lack of feedback on job performance.

Leisure Activity Participation

Each individual's leisure activity participation was recorded by indications of the amount of involvement in each of 116 leisure activities.

These responses were tabulated by the FREQUENCIES program to obtain a recording of the respondents' participation in the four categories:

1. =you have never engaged in the activity;
2. = you tried it once or a few times;
3. = you once did it regularly but no longer do it regularly;
4. = you currently engage in it regularly

On analysis of the FREQUENCIES results, seven activities were found not to have had any

participants, and an additional twenty-two activities had no current, regular participants. These activities were removed from the list prior to further analysis and are recorded in TABLE 15.

To establish a consistent measure of participation, the defining characteristic for active participation was determined by positive responses to, "4.=you currently engage in it regularly" from the Leisure Activity Listing instruction. The meaning of current regular participation is likely to represent many intepretations for respondents. However, in conjunction with the other three definitions of leisure participation, the meaning of current, regular participation is more understandable. It is meant not for the occasional attendance in an activity as indicated by, "3=you once did it regularly but no longer do it regularly", but for a committed regular involvement of some activity that an individual participates in throughout its seasonal patterns.

Indications from these leisure activity results are that the study population is relatively active. There were 87 possible activities indicated as receiving current regular participation and one individual managed his time to include 51 of them in a year's activity. At the other end of the range was an individual with just 2 leisure pursuits. The mean value for the number of leisure activities participated in by the study population was 22 activities.

Stress and Leisure Participation Change

The frequency of active participation in leisure activities and the recording of changes experienced in this activity participation are listed in TABLE 16. This Table also includes the level of L.C.U. experienced by each manager and illustrates how this life events stress occurred during the year that the study was undertaken.

Comparisons between the occurrence of life events stress, the change in stress, the frequency of activity participation and the change in activity participation are considered in the following text.

Each of these possible comparisons were explored and the numerical frequency data are presented in matrix format. The frequency of response in each possible cell of the matrices does

TABLE 15

LEISURE ACTIVITIES WITH ZERO PARTICIPATION (N=29)

Activity	Zero Participation	Zero Current Regular Participation
book binding	x	
designing clothes	x	
fencing	x	
flower arranging	x	
jewelry making	x	
knitting	x	
weaving	x	
amateur radio		x
archery		x
badminton		x
boxing		x
folk dancing		x
gymnastics		x
horseback riding		x
judo/karate		x
kite flying		x
leather working		x
metal work		x
motor boating		x
motor cycling		x
mountain climbing		x
needle work		x
painting/drawing		x
political activities		x
roller skating		x
sculpture		x
snowmobiling		x
snowshoeing		x
wrestling		x
	7	22

TABLE 16

PATTERNS OF LIFE STRESS WITH CHANGES IN LEISURE ACTIVITY PARTICIPATION (N=46)

Participant #	Change in Life Stress	Life Change Units	Frequency of Activity Participation	Change in Activity Participation
16	+	(2)	11	change
8	0	(2)	18	no change
17	+	(2)	20	no change
6	+	(3)	12	no change
18	+	(2)	27	no change
8	+	(2)	16	increase
42	+	(1)	12	no change
2	+	(3)	49	no change
7	0	(1)	38	no change
50	-	(3)	7	no change
1	0	(1)	21	no change
21	+	(2)	5	no change
36	0	(1)	34	no change
29	+	(2)	24	no change
30	0	(1)	12	no change
54	0	(1)	1	no change
24	-	(3)	32	no change
33	-	(3)	9	change
28	+	(2)	11	no change
12	+	(3)	30	decrease
3	-	(3)	28	no change
26	+	(2)	21	increase
47	-	(3)	27	decrease
48	0	(1)	51	change
44	0	(1)	44	change
10	+	(1)	29	no change
11	+	(2)	30	change
35	0	(1)	12	no change
38	+	(2)	25	no change
39	-	(2)	16	change
40	+	(2)	13	no change
45	+	(2)	22	no change
15	+	(2)	39	change
19	-	(2)	18	increase
23	+	(1)	20	no change
37	+	(2)	27	decrease
20	+	(3)	25	change
22	-	(1)	4	no change
52	0	(2)	30	no change
51	0	(2)	23	decrease
14	+	(1)	22	no change
25	+	(2)	8	no change

43	+	(1)	8	no change
41	-	(2)	9	no change
46	0	(1)	18	no change

Missing = 1

+ = increase in stress from start of year to end of year
0 = no change through year
- = decrease in stress from start of year to end of year

not generally allow for precise statistical evaluation by a Chi-squared test, yet the patterns in each of these matrices can be integrated to suggest that implications for larger population sizes may exist.

Life Stress (L.C.U.) with Change in Life Stress

Increasing amounts of stress are more evident in those managers experiencing from 150 L.C.U. to 300 L.C.U. (the second level of life stress)(as illustrated in TABLE 17). Those managers experiencing high levels of life events stress (more than 300 L.C.U.) either had increases in stress during the study frame, or had decreases in liie events stress. None of the members of this group indicated that the high level of life events stress was static, but all experienced a change in the amount of stress throughout the study frame.

The managers experiencing low levels of stress were more stable through the study in the change of life events stress, as 9 of 15 or 66% of these experienced no change in stress over the year. However, the remaining 33% all experienced an increase in the amount of life events stress during the study period.

Overall, the experience of an increase in life events stress occurred for 56% (25 of 45) of these managers, only 18% experienced a decrease and 26% no change in life events stress.

Life Stress With Frequency of Leisure Activities Participation

The experience of low life events stress (less than 150 L.C.U.) and the frequency of leisure activities participation does not exhibit a prominent pattern(see TABLE 18). The managers who recorded low amounts of life stress participate in various numbers of leisure

TABLE 17
AMOUNT OF LIFE STRESS WITH CHANGE IN LIFE STRESS (N=46)

Amount of Life Stress	Change in Life Stress			Total
	+	0	-	
1 (less than 150 L.C.U.)	6	9	0	15
2 (150 to 300 L.C.U.)	15	3	3	21
3 (more than 300 L.C.U.)	4	0	5	9

+ = increase in stress from start of year to end of year
0 = no change
- = decrease in stress from start of year to end of year

• Missing = 1

activities. There is no appearance that these low stressed managers adhere to any participation pattern in the number of leisure activities.

67% of managers who experience a medium amount of life stess events stress (150-300 L.C.U.) did appear to be more involved in a specific number of leisure activities, from 15 to 30 leisure activities.

The experience of high life events stress was not pronounced for any of the three levels of leisure activities participation.

Overall, no general implication is apparent in this comparison between life events stress and the frequency of participation in leisure activities.

Life Stress With Change in Leisure Activities Participation

The majority (87%, 13 of 15) of managers who experienced low amounts of life stress did not experience any change in the type or amount of leisure activities participation (TABLE 19). This suggests that low stressed managers of this population were more stable in their leisure activities participation.

TABLE 18

AMOUNT OF LIFE STRESS WITH THE FREQUENCY OF PARTICIPATION IN LEISURE ACTIVITIES (N=46)*

Amount of Life Stress	Frequency of Participation			Total
	low	med	high	
1 (less than 150 L.C.U.)	6	5	4	15
2 (150 to 300 L.C.U.)	6	14	1	21
3 (more than 300 L.C.U.)	3	4	2	9

low = less than 15 activities
med = from 15 to 30 activities
high = more than 30 activities

* Missing = 1

However, managers who were exposed to higher life events stress experienced change in their leisure activities participation. Of the managers experiencing from 150-300 L.C.U., 43% (9 of 21) changed either the type or amount of participation. Also, 44% (4 of 9) of the highest stressed managers experienced change in their leisure activities participation.

The managers of this population were less inclined to alter their leisure pattern if they did not experience much stress (less than 150 L.C.U.), yet those subjected to moderate and high amounts of life events stress did appear to experience change in either the type of leisure activities participation or the frequency of participation.

Change in Life Stress With Frequency of Leisure Activities Participation

Increases in the amount of stress experienced by managers throughout the study year were observed for 67% (9 of 15) of the managers who participated in low numbers of leisure activities, and for 61% (14 of 23) of the managers who participated in from 15 to 30 leisure

TABLE 19

AMOUNT OF LIFE STRESS WITH CHANGE IN LEISURE ACTIVITIES PARTICIPATION (N=46)*

Amount of Life Stress	Change in Participation			Total
	no change	change in type	change in frequency	
1 (less than 150 L.C.U.)	13	2	0	15
2 (150 to 300 L.C.U.)	12	4	5	21
3 (more than 300 L.C.U.)	5	2	2	9

* Missing = 1

TABLE 20

CHANGE IN LIFE STRESS WITH FREQUENCY OF LEISURE ACTIVIITES PARTICIPATION (N=46)*

Change in Life Stress	Frequency of Participation			Total
	low	med	high	
+ (increase in stress through year)	9	14	2	25
0 (no change)	3	5	4	12
- (decrease in stress through year)	3	4	1	8

low = less than 15 activities
med = from 15 to 30 activities
high = more than 30 activities

* Missing = 1

activities(TABLE 20). Also 56% of the entire population of managers experienced an increase in stress through the year.

Those managers who experienced no change in stress over the year did not exhibit any specific pattern in the numbers of leisure activities in which they were active participants. Similar results are observed for managers who experienced a decrease in stress over the year.

Change in Life Stress With Change in Leisure Activities Participation

Changes in activity participation were more noticeable for managers who experienced decreasing amounts of stress throughout the year. Of these managers, 50% (4 of 8) altered either the activity emphasis or their amount of participation. Much less change in the activity participation occurred for managers who experienced either no change or an increase in stress experienced. Only 25% (3 of 12)of managers experiencing no change in stress changed their leisure activities participation (TABLE 21). A slightly larger group, but still just 32% (8 of 25) of the managers recording increases in stress throughout the year, indicated that they made changes in their leisure activities participation.

Frequency of Leisure Activities Participation With Change in Leisure Activities Participation

Managers who participate in low numbers of leisure activities were very stable in their leisure participation: only 13% (2 of 15) altered the emphasis of their participation.

The managers who participate in the mid-range number of leisure activities experienced a lot of change in participation, as 44% (10 of 23) made changes in their leisure participation. This change was more pronounced as a frequency change rather than a change in the emphasis of leisure participation, presented in TABLE 22.

The emphasis of participation was recorded as the reason for change with managers who participated in high numbers of activities.

The preceeding observations have indicated that within this particular population of managers patterns of comparison were observed between the occurrence of life events stress,

TABLE 21

CHANGE IN LIFE STRESS WITH CHANGE IN LEISURE ACTIVITIES PARTICIPATION (N=46)*

Change in Life Stress	Change in Participation		Total
	no change	change in type	change in frequency
+ (increase in stress through year	17	4	4	25
0 (no change)	9	2	1	12
- (decrease in stress through year)	4	2	2	8

* Missing = 1

TABLE 22

FREQUENCY OF LEISURE ACTIVITIES PARTICIPATION WITH CHANGE IN LEISURE ACTIVITIES PARTICIPATION (N=46)*

Frequency of Participation Change	Change in Participation		Total
	no change	change in type	change in frequency
low (less than 15 activities)	13	2	0
med (from 15 to 30 activities)	13	3	7
high (more than 30 activities)	4	3	0

* Missing = 1

the change in stress, the frequency of activity participation, and the change in activity participation.

The experience of high amounts of stress was found to be a dynamic experience: in that all managers who experienced this high level of stress consistently experienced changing amounts of stress, either an increase or a decrease through the year. Certainly high amounts of stress over a prolonged period are considered to be detrimental to health (see p. 40), yet indications about the nature of stress in either a dynamic or a static sense may need to be explored to obtain additional understanding of the relationship of stress with health.

Within this population no prominent affects were exhibited between life stress and frequency of leisure. However, no change in the type or the amount of leisure activities was recorded for managers who experienced low amounts of stress. Change did occur in leisure activities participation with higher experience of life stress. Further enquiry of this observation is warranted to examine whether stability in leisure activities participation could be the independent variable in this relationship. Findings of this nature could be a developmental step in the process of applying lesiure as a stress reducer.

An increase in the change in life stress was witnessed for over half of the study population and the managers who experienced this increase in stress were primarily involved in the low and the midddle frequency of leisure activities participaton categories. The possiblility exists that investigating this association within large populations could indicate that change in stress corresponds to participation in defined numbers of leisure activities.

The observation was recorded that decreased amounts of stress occurred for managers who exhibited change in their leisure activities participation. Yet this finding included only 9% (4 of 45) of the study population(see TABLE 21).

Managers who participated in low numbers of activities did not readily change these activities, yet change in leisure activities participation was observed for managers who participated in more activities. Further study with participation in defined numbers of activities may uncover different levels of commitment by the population to leisure participation.

These observations all require replication with much larger populations to reach a greater understanding of the experience of stress and leisure activities participation with respect

to change in both variables.

It is necessary however, to examine the leisure participation of these managers in greater depth, exploring the types of activities participated in, and by grouping the participants by their activity participation.

Factor Analysis of Leisure Activities

Exploring the types of activities was undertaken by FACTOR Analysis. The leisure activity participation data were subjected to analysis by the principal component solution with varimax rotation. The use of a rotation technique with this method enhances the clarity of the solution making it "conceptually simpler than the unrotated ones (solutions)" (Kim, 1975) . This point is further explained by Kim's statement that,

> In the unrotated solution, every variable is accounted for by two significant common factors, which in the rotated solution each variable is accounted for by a single significant common factor.
>
> (Kim, in Nie et al, 1975:483)

This factoring model produced a factor solution which converged in 18 iterations. Iteration is the process used in the factoring solution "that replaces the main diagonal elements of the correlation matrix with communality estimates" (Kim in Nie et al, 1975:480). This process is repeated until a convergence occurs, and

> Satisfactory convergence ... is indicated ... if two successive sets of communality estimates are different from each other by not more than 0.001.
> ... initial estimates of the communalities are given by the squared multiple correlation between a given variable and the rest of the variables in the matrix.
>
> (Kim, in Nie et al (eds.), 1975:493)

The result of this procedure is a grouping of activities based upon the current, regular participation of respondents in the study. The factor solutions are outlined in TABLE 23 on the basis of the factor loadings of the leisure activity variables.

Six factors were established from the results of the factor solution. Additional factors were not readily interpretable because of the low numbers of variables grouping on them. Butcher (1980) experienced a similar problem in her investigation into adolescent girls' participation in physical activity. After describing eleven factors, Butcher found that

subsequent factors belied description because:

> ... there was usually only one item that measured each variable ... . Therefore, it was difficult to get high clusterings of variables on the same factor. Many factors had only one or two variables with high coefficients and it was difficult to interpret those factors.
>
> (Butcher, 1980:180)

Factor Arrangement

Descriptions of the six factors obtained in the factoring solution are discussed in this section, each are titled according to the dominant activities found within and are illustrated in TABLE 23. Additional analyses applied to these leisure factors utilized the respondent factor scores (Appendix 5).

Sports Activity: The activities which loaded most strongly upon the first factor were predominantly sports activities with factor loadings greater than .47. Sports activities of baseball, basketball, curling, football, golf, ice hockey, downhill skiing, volleyball and water skiing are the main elements of factor one. All the activities in the Sports Factor require a certain amount of physical involvement, perhaps with the exception of watching team sports, and are physically active leisure pursuits.

Family Activity: The more dominant elements of Factor 2 were less unidimensional than those of Factor 1. Two leisure patterns were predominant, the outdoor activities of camping, hiking, gardening and picnicking and the family activities of singing, child-related participation, jigsaw puzzles and religious organizations. These activities exhibit factor loadings beyond .52. A third element, that of community involvement, as expressed by the variables "civic organizations" and "volunteer work" assists in describing the family based nature of this leisure pattern.

TABLE 23

GROUPINGS OF LEISURE ACTIVITIES BY FACTOR ANALYSIS

Activity	Com	Sports	Family	Low-Physical Specialized	Low-Physical Entertainment	Small Group	Social
baseball	.60	.57	-.00	-.10	.41	.27	.14
basketball	.59	.67	.27	.16	.00	.21	.00
curling	.59	.58	.20	.23	-.01	-.10	.37
football	.55	.69	-.01	.20	.09	.14	-.04
golf	.43	.52	-.07	.19	.15	-.00	.31
horseshoes	.69	.68	.32	.00	-.03	-.03	.35
hunting	.33	.47	.30	.07	-.04	-.08	.00
ice hockey	57	.72	-.16	-.14	.03	.02	-.06
ice skating	.33	.47	.17	-.15	.32	.35	-.13
jogging	.45	.50	-.04	-.05	-.08	.43	.05
skiing downhill	.55	.69	-.00	.21	.10	-.04	.11
volleyball	.40	.52	.11	.21	.08	.21	-.13
watching team sports	.41	.53	.13	.11	.27	-.07	-.14
water skiing	.59	.54	.02	.46	-.01	.02	.28
attending concerts	.40	.08	.42	.13	.42	.08	.13
camping	.48	.21	.60	.16	.04	.14	.10
child related activity	.58	.01	.56	-.11	-.01	.07	.48

Activity	Com	Sports	Family	Low-Physical Specialized	Low-Physical Entertainment	Small Group	Social
civic organizations	.49	.33	*.41	.39	.04	.16	.14
fishing fresh-water	.41	.43	*.44	.04	.09	-.03	-.11
gardening	.43	.12	.58	.11	.04	.00	.24
go to horseraces	.55	.31	*.40	.14	.40	-.31	.05
hiking	.41	.12	.60	-.05	.05	.15	-.07
jigsaw puzzles	.48	.03	.55	.32	.16	-.08	.20
picnicking	.45	.00	.52	.35	.13	-.17	.01
religious organizations	.37	-.13	.54	.00	.05	-.11	-.19
sightseeing	.58	-.12	*.41	.37	.39	-.26	.18
singing	.49	-.06	.63	-.12	.23	.06	-.10
volunteer work	.27	.17	.47	.06	.00	.12	.03
marksmanship	.35	.08	.02	.54	.09	.16	.12
sailing	.58	.42	.04	*.59	-.00	.21	.03
skindiving	.35	.08	.17	.63	-.10	.04	.04
social drinking	.35	.27	.17	.44	.16	.10	-.09
tableboard games	.42	.11	.29	.40	.33	.12	-.20
writing poetry	.59	.16	.20	.61	-.28	.27	.01
woodworking	.36	.02	.04	.56	-.02	.15	.14
casino gambling	.57	.32	.21	.37	*.43	-.27	.13

Activity	Com	Sports	Family	Low-Physical Specialized	Low-Physical Entertainment	Small Group	Social
ceramics	.27	-.01	-.01	.21	•.43	-.27	.13
conservation organize	.33	.07	.34	-.04	-.40	.18	.09
cooking	.48	.09	.25	-.39	.48	.09	.08
dining out	.59	-.04	.06	-.06	.74	.09	.12
exercising	.55	.17	.36	.19	•.44	.38	.03
go to movies	.69	.21	.11	.07	.73	.24	.16
go to plays	.48	.12	-.13	.10	.50	.18	.23
listening to records	.48	-.36	.30	.04	.45	.12	.18
photography	.52	.07	.04	.48	•.49	-.03	-.19
watching T.V. shows	.53	.16	-.00	.37	.52	-.30	.01
window shopping	.51	.17	.16	.44	•.47	-.15	-.06
backpacking	.35	.09	.21	-.05	-.04	.51	-.16
bicycling	.55	-.00	.15	.08	.22	.67	-.12
canoeing	.68	.12	.49	.06	-.17	•.61	.11
driving	.48	.21	.06	.10	.33	-.44	.32
flying	.47	-.04	-.19	.01	.01	.58	.30
model building	.43	.25	.03	.29	.08	.45	.25
rowing	.57	-.02	.32	.18	.18	.52	.35
table tennis	.32	-.08	-.04	.35	.12	.41	.03

Activity	Com	Sports	Family	Low-Physical Specialized	Low-Physical Entertainment	Small Group	Social
weight lifting	.52	.23	.02	.43	.15	*.50	.03
acting	.36	-.15	.02	-.05	.18	-.04	.55
bowling	.63	.31	.13	.27	.23	.39	*.47
crossword puzzles	.37	.07	.15	.27	.13	-.14	.48
dancing	.47	.28	.01	.34	-.02	.17	.49
fraternal organ-izations	.47	.37	.29	.01	-.00	.18	.53
squash	.43	.23	-.02	.19	.01	.31	-.49
travelling abroad	.63	.02	-.24	.09	.03	.21	.72
*these activities load high on more than one factor							
Eigenvalue		13.74	5.07	4.33	3.94	3.73	3.37
PCT of Variance		17.8	6.6	5.6	5.1	4.9	4.4
Cum. PCT		17.8	24.4	30.1	35.2	40.0	44.4

Missing Cases = 3
Com = Communalities

Low-Physical Specialized Activity: The third factor grouped very specialized activities which require individuality and dedication. The major variables in this factor were skindiving, writing poetry, sailing, woodworking and marksmanship and all received factor scores greater than .54. These activities are similar in that they are often performed alone (or with a few close companions) and require specialized skills from the participants, and require a low amount of physical exertion.

Low-Physical Entertainment Activity: The activities that grouped into Factor 4 have as a common base the lack of physically active participation. The two activities of dining out and going to the movies had factor loadings better than .73 and are activities that both exhibit sedentary and entertainment characteristics. The other activities of watching T.V. shows, going to plays, photography, cooking, window shopping and listening to records are also of a non physical nature and all contain elements of entertainment and sedentary lifestyle. The factor loadings for all these variables exceeded .45.

Small Group Activity: Factor 5 is composed of outdoor activities which are of a individual nature. Bicycling, canoeing and flying, had factor loadings above .58 and rowing and backpacking exceeded .50. These activities are similar to those grouping on Factor 2, however, the distinction between the two factors appears to be the type of group involved. The outdoor activities of Factor 5 could be viewed as single lifestyle precursors to those outdoor activities of the family oriented Factor 2.

Social Activity: Most of Factor 6 activities are socially active leisure. Travelling abroad with a factor loading of .72, acting and fraternal organizations with factor loadings above .53 combined with the variables dancing and bowling, create a socially active description for this factor.

Further analyses of this leisure factor variable utilized the respondents factor scores (Appendix 5) obtained from the Factor Analysis solution.

Cluster Analysis of Respondents by Leisure Activity Participation

To determine if respondents would group on any of these factors, the leisure activity participation data were subjected to Cluster Analysis.

Cluster analysis is a hierarchal clustering procedure which implements an agglomerative method having four steps. These steps are:

Obtaining measures of the similarities between or distances separating the initial clusters

Combining the two most similar clusters to form a new cluster.

Recomputing the similarities or distances of existing clusters to the new cluster.

Returning to the second step until all cases have been combined in one cluster.

This produces a hierarchy of cluster solutions, from one overall cluster to as many clusters as items. At each level the clusters are disjoint (each item belongs to only one cluster).

(SPSS-x INFO, *Cluster* Feb., 84:26)

The Cluster Analysis solution, which utilized a squared Euclidian measure developed a cluster membership of cases which exhibited two main clusters. Specific differences were found between the clusters on examination of their factor scores. The Cluster Analysis was measured in this solution to the tenth level of the Cluster Hierarchy. The factor scores of each respondent were examined once the manager was assigned to his respective cluster.

Cluster 1: The factor scores for individuals grouped in cluster one are predominantly negative on factor 1, suggesting that the members in this cluster are not heavily involved in active sports. However, the members of this cluster do demonstrate an affiliation toward factor 2, Family Activity. The factor scores on this variable exhibit a positive pattern. Examination of the factor scores for the factors 3,4,5 and 6 present a neutral pattern potentially indicating that the members of this cluster are not as a group commited to these other activity patterns. The managers of Cluster 1 appear to be commited to the family leisure pattern and are not involved with active sports.

Cluster 2: This group of managers are much more active in their leisure than those of Cluster 1. Positive factor scores are the norm in Cluster 2 with strong positive scores on factor 1 and factor 4 (TABLE 24). This indicates that the members of Cluster 2 are predominately involved in their leisure and pursue an active leisure lifestyle.

Pearson's Product Moment Correlation (r)

The following discussion is directed toward interpreting the relationship testing that examined all study variables. A short review of the correlation technique applied precedes the presentation of the results obtained from the Pearson correlation analysis.

The bivariate correlation technique was chosen for this analysis because it provides a numerical value of the strength and direction of relationships between pairs of variables. This is clearly stated by Nie et al (1975).

> Bivariate correlation provides a single number which summarizes the relationship between two variables. These correlation coefficients indicate the degree to which variation (or change) in one variable is related to variation (change) in another.
>
> (Nie et al,1975:276)

The Pearson's product moment correlation (Pearson's r) technique serves a dual purpose, first as "an indicator of the goodness of fit of the linear regression [and secondly as] a measure of association indicating the strength of the linear relationship between the two variables" (Nie et al, 1975:279).

The relationships examined by the Pearson's r analyses were those of:

1. age and education with each of management function group, life events stress, job stress and leisure activity participation;
2. management function group with each of life events stress, job stress and leisure activity participation;
3. life events stress, job stress with leisure activity participation; and
4. frequency of leisure activity participation with leisure factor and with leisure cluster.

The results of these analyses are presented in TABLE 25 which follows a matrix format and highlights the correlation coefficient (r)

TABLE 24

CLUSTER ANALYSIS : GROUPING OF INDIVIDUALS BY LEISURE ACIVITY PARTICIPATION (N=35)

Case Number		Activity Factor					
Cluster (n=22)	Cluster (n=13)	Sports	Family	Low Physical Specialized	Low Physical Entertainment	Small Group	Social
6		41.8	46.5	43.7	46.2	43.0	45.0
30		39.1	44.5	47.2	50.0	40.8	53.2
39		35.5	55.7	50.8	42.2	53.8	47.3
46		40.1	44.2	57.8	55.0	49.3	48.9
1		43.9	74.3	39.8	45.9	47.0	46.3
5		45.9	60.5	43.8	58.1	39.0	56.0
11		38.1	75.0	38.7	57.3	56.1	48.1
28		43.3	37.3	47.2	50.4	42.1	50.8
17		49.2	54.8	38.9	49.0	53.2	40.1
29		39.8	50.2	38.4	52.2	61.1	39.2
33		52.5	50.8	58.4	47.9	45.9	54.0
38		38.0	39.7	66.9	48.3	53.1	43.9
40		52.1	49.9	35.8	41.5	43.4	54.3
44		41.6	40.6	59.3	43.9	46.4	58.7
19		40.3	55.0	55.0	30.7	36.0	47.7
35		40.7	43.8	43.6	35.9	45.9	55.8
54		40.9	44.4	46.9	38.6	49.3	44.4
26		43.5	59.7	54.2	56.4	32.6	41.4
16		55.7	44.6	42.3	39.8	46.7	37.0
24		47.4	40.8	54.8	58.9	52.6	36.2
47		48.5	45.7	48.1	50.8	43.3	33.9
50		52.7	42.9	40.0	36.5	45.6	35.5
	12	62.0	59.8	53.6	65.3	33.4	57.1
	18	70.8	33.9	44.2	54.7	46.3	41.7
	2	59.3	54.2	56.0	64.3	49.7	44.5
	7	52.5	63.1	48.0	63.6	44.4	63.1
	21	56.0	59.8	55.5	55.5	37.7	54.7
	42	52.6	42.2	44.2	58.0	48.3	51.4
	8	51.6	53.5	53.9	52.9	59.4	46.6
	10	47.3	47.2	51.6	53.3	63.4	47.7
	45	57.1	46.2	59.9	49.0	57.1	47.8
	15	53.2	44.2	57.5	56.0	45.0	58.8
	34	53.6	42.9	55.0	49.0	55.3	66.2
	36	38.1	43.1	52.1	58.7	47.3	75.3
	48	51.2	47.4	42.9	56.6	48.8	61.7

TABLE 25 indicates Age is found to be inversely and significantly related to life events stress as measured by the SRE (r=.-31) and Age is also found to be related to the leisure activity participation variable leisure cluster (r=.33).

These findings indicate first, that within this sample, the younger managers experienced more stress than the older managers and second that older managers participate as a group in Cluster 2, active leisure activities. The membership of Cluster 2 is limited (N=12). With this in mind, the finding between Age and Leisure Cluster indicates that within the overall population of managers (N=46), there is a small older group of managers that pursue more active leisure pursuits. An examination of the Leisure Factor variables did not indicate which grouping of leisure activities, active or otherwise, older managers had been involved with during the study term yet a trend (see TABLE 25) indicated that it was not likely to be Sports Activity.

Larger population sizes used in replication studies would produce a clearer indication of whether this finding is an anomaly or a pattern in which specific groups of older managers pursue active leisure pursuits.

One positive relationship was found for Education level attained with Management Grouping (r=.43), another (r=.27) Education with Leisure Factor 2 (Family Activity) and one negative relationship (r=-.24) Education with Leisure Factor 5 (Small Group Activity). The first result emphasizes that within this study sample, managers who were grouped under the title of POLICY MAKER had attained the highest levels of education, and their counterparts grouped as PLANNER were lowest in educational achievement.

The second and third results indicate respectively, that managers who attained higher levels of education were involved in the Factor 2 leisure activities. This group of managers however was found not to be involved in the leisure pursuits of bicycling, canoeing, flying, rowing and backpacking of Factor 5, Small Group Activity.

Important to note is that 80% of this population of managers is married and that 17% of these have no children. Generally, this population is involved in leisure activities that can and do enable all family members to participate.

TABLE 25

RELATIONSHIPS BETWEEN DEMOGRAPHIC, STRESS AND LEISURE ACTIVITY PARTICIPATION VARIABLES (OVERALL N=46)

	Age	Education	Mgmt. Fn.	SRE	Job Stress	Leisure Freq	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Leisure Cluster
Age	1.00												
Education	-.15	1.00											
Mgmt. Fn.	.09	†.43	1.00										
SRE	+-.31	.03	+.23	1.00									
Job Stress	-.18	-.05	.11	†.38	1.00								
Leisure Frequency	.06	.00	+.25	.17	-.06	1.00							
Factor 1	-.17	.10	+.29	.07	.00	†.42	1.00						
Factor 2	.12	+.27	.09	.09	-.17	†.55	.05	1.00					
Factor 3	-.12	.16	.04	-.10	.12	.15	-.08	-.01	1.00				
Factor 4	.02	.18	.06	•.21	•.20	.03	-.00	-.01	-.00	1.00			
Factor 5	.16	+-.24	-.09	-.19	-.13	.17	.00	.06	.02	.03	1.00		
Factor 6	.13	-.04	-.14	.06	.18	.07	.00	-.09	.02	.13	-.03	1.00	
Leisure Cluster	†.33	-.04	.12	+-.22	.02	†.57	†.50	-.06	.00	-.05	.11	+-.30	1.00

• significant at .10 level of confidence
+ significant at .05 level of confidence
† significant at .01 level of confidence

The Management Grouping variable was positively related to the SRE (r=.23). This positive relationship of Management Grouping and the SRE indicates that more life events stress (change) occurred during the study frame for managers grouped as POLICY MAKER than those from other groupings. However no significant relationships were found for the variable pair of Management Group and Job Stress (r=.11).

A second relationship that between Management Group and Leisure Frequency exists (r=.25) and indicates that POLICY MAKER managers have a higher frequency of participation in leisure than do managers from either SUPERVISOR or PLANNER groupings.

The relationship exhibited between Management Group and Leisure Factor 1 (r=.29) suggests that these POLICY MAKER managers participate in active sports leisure activities.

A positive relationship was found for the variables, SRE and Job Stress. This indicates that managers who experienced high levels of life events stress also recorded high levels of Job Stress.

An inverse relationship was established for both pairings of the SRE and Leisure Cluster (r=-.22) and SRE with Leisure Factor 4 (r=.21), Low-Physical Entertainment. The first finding suggests that as life events stress decreased, participation in the active leisure grouping increased, and the second confirms that increased experience of life events stress occurred for the managers involved with the Low-Physical Entertaining leisure activities of dining out, going to the movies, watching T.V. shows, going to plays, photography, cooking, window shopping and listening to records.

The variable Job Stress produced a relationship when paired with the SRE as previously discussed, and also related positively with the Leisure Factor 4, Low-Physical Entertainment. This finding indicates that managers experiencing high Job Stress also participate in the above low physically active leisure pursuits.

The Leisure Frequency variable exhibited three positive relationships with; Leisure Factor 1, Sports Activity(r=.42), Leisure Factor 2 Family Activity(r=.55) and Leisure Cluster (r=.57). These results specify that those managers of the population who were

involved in more activities were also involved in the leisure activities from Sports Activity(p.72) and Family Activity(p.76) and in the active cluster of leisure participation.

This last section has examined the Pearson's r relationships for the overall population of managers, between pairings of the study variables; Age, Education, Management Grouping, SRE, Job Stress, Leisure Frequency, Leisure Factors and Leisure Cluster. Fifteen significant relationships were established.

Age was found to be inversely related to the life events stress measure and a subgroup of older managers were found to exhibit an active leisure pattern. These findings indicate that younger managers experienced more stress and that a small group of older managers were involved in the active leisure cluster. Higher levels of education corresponded to being grouped with the POLICY MAKER, of the management grouping and to participation in family oriented leisure activities. This same management group, POLICY MAKER, had higher stress levels, as measured by life events, than did his counterparts and also undertook not only more leisure pursuits but pursuits that were of an active nature. The two stress measures were related indicating that as life events stress was experienced the recording of high levels of Job Stress increased. Lower stress levels (SRE) were found to exist for managers involved in the active leisure grouping and higher stress levels were recorded by managers participating in Low-Physical Entertainment leisure activities. High levels of Job Stress were found for those managers involved in low-physically entertaining leisure activities. Also high frequency of participation in leisure activity was determined to relate with involvement in active pursuits. Overall, no interrelationships were established between the Leisure Factor variables.

For each management subgroup an examination of the relationships between Age, Education, SRE, Job stress, Leisure Frequency, the six Leisure Factors and Leisure Cluster was performed. The findings are reported first for the group, POLICY MAKER, secondly for the group of SUPERVISOR and finally for the group of PLANNER.

TABLE 26

RELATIONSHIPS BETWEEN DEMOGRAPHIC, STRESS AND LEISURE ACTIVITY PARTICIPATION VARIABLES (POLICYMAKER N=19)

	Age	Education	SRE	Job Stress	Leisure Frequency	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Leisure Cluster
Age	1.00											
Education	+-.40	1.00										
SRE	•-.35	.07	1.00									
Job Stress	.12	•-.30	.18	1.00								
Leisure Frequency	.08	•.31	.14	+-.44	1.00							
Factor 1	+-.39	+.44	.13	-.20	+.45	1.00						
Factor 2	+.37	.18	-.07	†-.54	†.75	.04	1.00					
Factor 3	-.08	.23	.24	.23	•.33	.14	-.03	1.00				
Factor 4	-.16	-.04	+.42	.18	-.02	.04	-.26	.08	1.00			
Factor 5	.05	-.25	-.17	-.15	.13	-.02	-.05	-.28	.06	1.00		
Factor 6	.18	-.02	.05	+.37	-.06	-.03	-.11	.02	•.30	-.22	1.00	
Leisure Cluster	-.29	.06	-.16	-.27	.25	†.68	-.08	.02	-.13	.28	+-.40	1.00

• significant at .10 level of confidence
+ significant at .05 level of confidence
† significant at .01 level of confidence

Policy Maker: The group of managers defined as POLICY MAKER exhibit fifteen significant relationships within the correlation matrix of TABLE 26. With increasing age, POLICY MAKER managers are less educated (r=-.40) have experienced lower life events stress (r=-.35) and are involved with Family leisure activities (r=.37) rather than Sports activities (r=-.39). Of these mangers those with higher levels of Education experienced lower Job Stress (r=-.30) and participate in more leisure activities (r=.38) which are Sports activities (r=.44). Managers of this group experiencing high SRE levels also participate in Low-Physically Entertaining leisure activities (r=.42). The higher levels of Job Stress are experienced by those POLICY MAKER managers who participate in lower numbers of activities (r=-.44) and also by those who participate in Social activities (r=.37). Job Stress is low for POLICY MAKER managers participating in Family activities (r=-.54). POLICY MAKER managers who are involved in more leisure activities participate in Sports (r=.45), Family (r=.75) and in Low-Physical Specialized (r=.33) activities.

TABLE 27 illustrates that SUPERVISOR managers are found to participate in high numbers of activities whichever their choice of Leisure Factors, as indicated by the following relationships between Leisure Frequency with; Sports Activity (r=.36), Family Activity (r=.44), Small Group Activity (r=.42) and Social Activity (r=.40).

Summarizing these findings it appears that managers of the SUPERVISOR group who experienced stress were found to be represented in the less active Leisure Cluster, and that generally the managers of this group were highly involved in their leisure. A total of ten significant relationships were found.

Planner: For the managers who were defined as PLANNER (TABLE 28), the variable Age produced significant relationships with, Education (r=-.42), SRE (r=-.60), Job Stress (r=-.59) and Leisure Factor 3, Low-Physical Specialized (r=-.63). These relationships were all negative which can be interpreted to mean that older managers of this group were less educated, experienced less life events and less job stress and were not involved in leisure

TABLE 27

RELATIONSHIPS BETWEEN DEMOGRAPHIC, STRESS AND LEISURE ACTIVITY PARTICIPATION VARIABLES (SUPERVISOR N=17)

	Age	Education	SRE	Job Stress	Leisure Frequency	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Leisure Cluster
Age	1.00											
Education	-.10	1.00										
SRE	-.19	-.06	1.00									
Job Stress	-.20	-.16	+.42	1.00								
Leisure Frequency	•.38	-.25	.02	-.21	1.00							
Factor 1	.00	•-.36	-.24	.19	•.36	1.00						
Factor 2	-.07	.23	.29	.01	+.44	.04	1.00					
Factor 3	.15	.05	-.20	.05	.30	.14	.11	1.00				
Factor 4	.26	.06	.14	.08	.28	.32	.27	-.19	1.00			
Factor 5	†.53	-.32	-.14	-.02	+.42	.16	.20	.30	.20	1.00		
Factor 6	.30	-.00	.18	-.08	+.40	.15	-.12	-.00	-.05	.30	1.00	
Leisure Cluster	•.36	-.20	.03	•-.35	.27	.05	-.18	-.05	.02	-.14	-.02	1.00

• significant at .10 level of confidence
+ significant at .05 level of confidence
† significant at .01 level of confidence

activities from the Low-Physical Specialized Leisure Factor (p.77). Also the PLANNER managers with higher education levels attained participated in Family (r=.70) and Low-Physical Entertainment (r=.55), leisure activities. Higher life events stress was experienced (r=.83) by managers of the PLANNER group who participated in Low-Physical Specialized leisure pursuits and higher Job Stress was related to involvement in both Low-Physical Entertainment activities (r=.58) and to membership in the less active Leisure Cluster (r=-.71).

Two relationships were uncovered for the Leisure Cluster variable. These were with Factor 1, Sports(r=.96) and with Factor 2, Family (r=.65). The indications are that membership in the active Leisure Cluster corresponds to participation in either of Sports or Family leisure activities.

Examination of the interrelationships of the Leisure Factor variables finds three significant results; Factor 1, Sports Activity with Factor 2, Family Activity (r=.65), Family Activity with Factor 6, Social Activity (r=.73), and Factor 3, Low-Physical Specialized Activity with Factor 5, Small Group Activity (r=.56). These relationships may indicate that the sample size of the group PLANNER is too small to maintain the discreteness of the individual leisure factor variables.

In summary, the PLANNER group of managers were with age less likely to experience stress, and that increases in job stress did correspond to involvement with less active leisure pursuits. The preceding results are examined in the next chapter with respect to the five problem statements identified in Chapter 1.

TABLE 28

RELATIONSHIPS BETWEEN DEMOGRAPHIC, STRESS AND LEISURE ACTIVITY PARTICIPATION VARIABLES (PLANNER N=10)

	Age	Education	SRE	Job Stress	Leisure Frequency	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Leisure Cluster
Age	1.00											
Education	-.42	1.00										
SRE	+-.60	.24	1.00									
Job Stress	+-.59	.17	.36	1.00								
Leisure Frequency	-.28	-.25	-.18	.21	1.00							
Factor 1	-.19	.27	-.30	.05	.38	1.00						
Factor 2	-.41	+.70	-.10	.44	.26	+.65	1.00					
Factor 3	+-.63	.24	†.83	.40	-.22	-.29	-.17	1.00				
Factor 4	.03	•.56	.07	•.58	-.15	-.11	.02	-.01	1.00			
Factor 5	-.04	-.35	.25	-.25	.12	.06	-.23	•.56	-.41	1.00		
Factor 6	-.42	.50	-.03	.44	-.30	.30	†.73	.22	-.09	.23	1.00	
Leisure Cluster	.43	.26	-.28	†-.71	-.44	†.96	+.65	-.31	-.31	.15	.35	1.00

• significant at .10 level of confidence
+ significant at .05 level of confidence
† significant at .01 level of confidence

V. ANALYSIS OF THE PROBLEMS

This chapter serves the purpose of applying the results (Chapter 4) to the problem statements presented in Chapter 1. The study was designed to explore relationships between three variables, management, stress and leisure participation. The processes involved with understanding the conceptual and definitional meanings of these variables and the processes committed to the data collection and analysis are both referenced in the text discussing each problem statement. The analysis of the problems follows a specific format which outlines how the data were collected and what results were apparent. This is followed by a brief discussion on the conceptual relevance of these results, where applicable, and a summary is presented in a concluding statement. Each problem is discussed in the order of sequence as presented in Chapter 1.

Problem 1. Do the demographic measures of age or education exhibit relationships with stress?

The demographic information of the study was collected by responses to an interval scaling format which required selection of categories for the variables age and education (Appendix 1). Equal age groupings of five year periods, from under 30 to over 60 years, were determined for the study group. Education levels completed, from highschool to graduate degrees, formed the range of the education variable. It is significant to note that 43% of managers responded that they had achieved graduate degrees. The variable stress was measured by two scaling methods. The first method produced a summation of the numeric values assigned to responses on a life events scale. This scale, the SRRS and its data collection schedule, the SRE, are explained in Chapter 3 (The Schedule of Recent Experience). The numeric summation of change from life events has been found related to the onset of illness occurring within the subject experiencing the changes (Pietrich and Holmes, 1977). This value is referred to as Life Events Stress. A frequencies analysis (TABLE 11, p.62) was conducted on these data which illustrated that two-thirds of the sample population had experienced sufficient life change to correspond with a 50:50 chance of the onset of illness.

The second measure of stress also was a numeric summation; however, the recording value was on a five point Likert scale. This instrument was developed from an exploration of managerial stress. An indepth presentation of the job stress instrument is given in Chapter 3 (Job Stress Instrument).

The Pearson's r correlation statistic was applied to test for relationships between the four variable pairs: age with life events stress; age with job stress; education with life events stress; and education with job stress.

The findings for the first two variable pairs showed a strong inverse relationship; age with life events stress ($r=-.31$) and age with job stress ($r=-.18$). while these correlation values are low, they appear to indicate that the older managers of the study population have experienced less stress from life events or from job related pressures and that the younger managers experienced more. The greater life events stress experienced by younger managers may be in part due to the amount of change which naturally occurs with the events of: changing careers; marriage; family; and high expenditures (ie. mortgages) while older managers are more likely to have experienced these long before the recording of data for this study.

Some research literature acknowledges that managers accept stress as an inevitable consequence of the job they perform (Peters and Benson, 1978). Certainly this acceptance of stress occurs over time and is possibly higher among experienced, older managers. A study by Howard (1976) supported results that suggested experience was a responsible factor when managers reported lower levels of stress. In that study, the measurement of experience was recorded by length of time in current position and proximity to the upper levels of management. The finding that older managers of this current study population experienced less life events stress (and less job stress) than their younger counterparts and this may be due in part to their life long experiences.

The third and fourth variable pairs, those relating education with sources of stress, produced no significant relationships (TABLE 25,p.81). Education did not affect the experience of life events stress or job stress in those managers surveyed.

Problem 2. Do either age or education affect involvement in the numbers of leisure activities or the type of leisure activity?

Methodological examination of the variables age and education were explored in the previous problem analysis and need not be reiterated. The Leisure participation data were provided from participation responses to each activity of the leisure activity listing (Appendix 1). These data were intitially analysed by tabulating the numbers of activities in which a manager currently participated on a regular basis. The number of activities participated in ranged from a low of 2 to a high of 51 with the mean of the group located at 22 activities. These figures suggest that there are members of the study population who are very active during their leisure. However, numbers of activities or frequency of participation is just one measure indicating the amount of involvement.

Leisure participation was also examined as to the type of leisure involvement. The process of determining type of participation for each manager of the study group began by factor analyzing the group of 87 activities which had active participants. This resulted in 6 distinct and interpretable factors (groups) of activities (TABLE 23,p.73). Each participant received factor scores on each of the 6 factors, emphasizing that individual's active involvement in the activities of that factor. Then the data from leisure participation were subjected to a cluster analysis which was responsible for grouping participants into similar leisure participation clusters. Two such clusters (groups) emerged. The factor scores of each subject were recorded in conjunction with their cluster groupings (TABLE 24). The participants who were grouped in the first cluster exhibited positive affiliation with factor 2 activities (Family Activity) and negative association with factor 1 activities (Sports Activity). This result suggests that this group of managers is primarily involved with their family's leisure pattern which does not include the active sports activities. The second clustering of participants supports active involvement in factor 1 activities (Sports Activity), factor 4 activities (Low-Physical Entertainment) and factor 6 activities (Social Activity). These managers appear to favour participation in a variety of active and entertaining leisure pursuits.

The Pearson's r statistic was applied to the variable pair frequency of participation and leisure cluster to investigate if there was sufficient evidence to group the two leisure clusters as 'less active' and 'more active'. The result of the Pearson's r was a positively significant relationship ($r = .57$) which supports the suggestions from the earlier findings that Cluster 1 subjects are predominantly less active than the subjects of Cluster 2.

The examination of relationships between the variable pairs: age with frequency of participation, age with the six leisure factors, age with leisure cluster, education with frequency of participation, and education with the six leisure factors, education with leisure cluster, all utilized the Pearson's r correlation statistic. Of these tests three proved significant, the relationship of age with leisure cluster ($r = .33$), the relationship between education with leisure factor 2 (Family Activity), ($r = .27$) and the relationship between education with leisure factor 5 (Small Group Activity), ($r = -.24$). This result is interesting because it indicates that a subgroup of older managers predominate in the Cluster 2 grouping of active leisure pursuits. This is the reverse of the trend in research reported by Zuzanek (1978) which indicated that leisure involvement declined with age after retirement. The impact of age on leisure participation will require further investigation to determine the role that specific subgroups like this have on the relationship between these variables.

Also, Romsa (1973) has suggested that education was a factor which exhibited a positive relationship between it and 'active' leisure. The study results here indicated that education is positively related to involvement in Family Activity leisure pursuits and these findings may support this earlier claim.

Problem 3. Does alignment with specific management job function groupings affect the levels of stress experienced by the manager?

Explanations have been given in both Problem 1 and Problem 3 as to the procedures undertaken to prepare the variables, management grouping and sources of stress, for the relationship analysis by the Pearson r statistic. Prior to the relationship testing, the Job Stress

instrument was scrutinized by a frequencies statistic. The means of the items contained within the Job Stress instrument were compared to the findings of Kiev and Kohn (1979). This nonstatistical comparison revealed that the items originally uncovered in 1979 as the greatest sources of stress were identical to those found in this study (TABLE 13,p.62). It seems that managers in Canada and in the United States identify the greatest sources of stress to be time and work pressures, lack of feedback, "politicking" within the organization, and the disparity between the manager's goals and the expectations of him by the organization.

The process by which discernible management groupings were obtained began originally by respondents rank ordering a list of management job responsibility statements in descending order of importance to their jobs (ie. the most important first). The job responsibility statements were worded to express specific job functions. The responses to this ranking procedure were subjected to the Spearman's rho rank order correlation, to examine what relationships existed between the responses to the management job responsibility statements. The findings were used to establish divisions or groups of managers.

However, the results found that no relationship could be established for management grouping and job stress (TABLE 25,p.84). This finding can be interpreted to mean that job stress as measured by this scale is not specific to one group of managers but is likely to be a source of stress that affects all managers.

A relationship was found to exist between management grouping and life events stress ($r = .23$). This result indicates that more life events stress is experienced by POLICY MAKER managers. Support in the research literature is mixed. Several writers (Howard 1976; Kiev and Kohn 1979, Sasser and Leonard, 1980) indicate that the 'executive' level manager experiences less stress because he is able to control the sources of stress rather than adjust to them as lower level managers do. Yet the opposing viewpoint has documented the stress related diseases suffered by entreprenurial executives (Boyd and Gumpert, 1983). It is likely that the influences which affect organizational change are responsible for creating stress for all levels of managers and that at any given time, discrepancies between the amount of stress experienced by different

management personnel may occur.

Problem 4. Do specific management job function groupings reflect the numbers of leisure activities or type of leisure participation of managers?

The background data information for the variables, management grouping and leisure participation are outlined in the Problem 3 and the Problem 2 analyses. The relationship examination between these variables applied the Pearson's r statistic. Two relationships were determined, one between management grouping and frequency of leisure ($r = .25$) and the second between management group and participation in the leisure activities from factor 1 Sports Activity ($r = .29$). These results indicates that POLICY MAKER managers participated in significantly more activities and activities of an active sport nature than their managerial counterparts.

White (1975) established that members of higher prestige occupations participated in more activities more frequently than did members from lower occupational prestige groups. The highest level of management (POLICY MAKER) was found to participate in more activities than their managerial counterparts. This appears to indicate that White's (1975) results may also apply within occupational groups.

Other research literature which has attempted to isolate specific groups of leisure activities with occupational prestige, has indicated that people in higher prestige occupations participate in 'high brow' leisure activity (Bishop and Ikeda, 1969) and are more involved with outing or cultural activities (Dowell, 1967). Zuzanek (1978) also listed activities he associated with higher prestige occupations to be of the preceding types. Yet the analysis of the managerial sample did indicate that a specific pattern in leisure participation existed that for POLICY MAKER managers, those who were considered the highest prestige group in this study and they participated in Sports Activity. It is possible that the leisure activity participation of this managerial group could be found to be representative of the earlier findings, if compared to lower occupational prestige groups. However, within similar occupational groups, the

difference between prestige level and type of leisure participation appears to be based upon the physically active nature of sports.

Problem 5. Does stress affect the numbers of leisure activities or the type of leisure participation of managers?

The explanation of data collection and initial analysis for the stress and leisure participation variables has been considered in earlier problem analyses and is not reiterated here. The examination for relationships between these study variables investigated sixteen potential relationships. These were the variable pairs, life events stress with frequency of leisure, life events stress with the six leisure factors and life events stress with leisure cluster, job stress with frequency of leisure and job stress with the six leisure factors, and job stress with leisure cluster.

Four relationships of importance were determined and three of these involved life events stress. The most significant was an inverse relationship between life events stress and leisure cluster ($r = -.22$). This result indicates that for the study population, high levels of life events stress corresponded to participation in less active leisure, or that higher stressed managers were involved in activities from the less active leisure cluster. The second relationship was found to be positive between the SRE and leisure factor 4 (Low-Physical Entertainment Activity), ($r = .21$). This finding suggests that managers who experienced high life events stress were involved in low-physically demanding leisure activities.

The research literature that has evaluated this inverse relationship between stress and leisure participation generally support the results determined in this study. Howard (1976), for example, determined that managers who attempted regularly to take exercise, showed lower stress effects. Also, executives who were actively engaged with physical exercise reported less stress than their counterparts (Kiev and Kohn, 1979). It has even been suggested that the recreative experience is an antidote to stress (Heywood, 1978).

The third important relationship was positive between life events stress and frequency of leisure ($r = .17$). Although not significant, this finding does indicate that managers of this study who experienced more stress also engaged in more leisure activities than their counterparts who experienced less stress.

One additional relationship that between job stress and leisure factor 4 was established($r = .21$). This finding indicates that managers who experienced higher levels of job stress also were participants of low-physical entertainment leisure activities. The results from these analyses indicate that higher levels of stress correponds to participation in less active leisure activities. However, higher levels of involvement with non active leisure has the reverse effect.

VI. SUMMARY

Each of the preceding chapters has focussed upon a singular aspect of this study. This final chapter briefly summarizes the entire study process and presents the conclusions and the implications, for both practice and research arising from the study.

The significance of the study was considered in the opening discussion in terms of cost to: society, the organization, and the individual. Also, the first chapter outlined the study problems that were explored and the parameters that governed the study process.

The conceptual background of the three study variables was presented next. This review examined management from the point of view of the functions managers perform; examined stress from its development as a noxious stimulus to laboratory mice (Yerkes and Dodson, 1908) to the measurement scales which record the individual's experience of stress; examined leisure participation both as an activity experience and as a state of mind. The chapter was completed by a discussion of the research supported relationships between these three study variables.

The following section was devoted to the methodological procedures applied to the study variables. Explanations of the data collection schedule, the data collection process and the statistical analyses applied were included in this chapter.

The results of these statistical analyses were illustrated in tabular form with accompanying explanations in the forth chapter. Frequency tables depicted the distribution of the study sample on the demographic information supplied and where applicable, on the study variables. Correlation tables described the rank ordering relationships of management job functions and the interrelationships between the study variables, Factor and Cluster analyses tables indicated the grouping of leisure activity and leisure participants.

These results were applied in the analyses of the problems in chapter 5 and the conclusions that were reached from that process are discussed next.

Conclusions

These conclusions are based on the findings as expounded in the analysis of the problems, and are specific to this study population of male public administrators. These findings show some support for the general trends as presented in the research literature, yet no attempt is made to form generalizations from the results.

Discernible management groupings from a rank ordering of job responsibility statements were found with the utilization of the rank order correlation statistic, the Spearman's rho. This test revealed three separate distinctions between the managers of this study population. These distinctions were arrived at from examining the correlation coefficients between the ranking of the job responsibility statements. The most obvious group that emerged was managers who perform supervisory duties, such as selecting and appraising staff and organizing, assigning and supervising the work of subordinates. A second distinction was the group of managers who affect the direction of their organization by developing policy for it and by reporting to other executive on the direction of the affairs of the organization. The third group established by this methodology were managers who essentially perform planning functions in program, policy and procedural implementations, as well as having input to the budgetary and inventory control processes.

The methodology of rank ordering of job functions has provided a useful process for distinguishing between types of management for this study. With further development and refinement of the job responsibility statements the specific methodology applied in this study could become a consistent measure for the defining of "manager".

The remaining conclusions are based upon the results of correlation testing which utilized the Pearson's (r) product-moment correlation statistic. All five study problems were subjected to this analytic measure and relationships of significance were determined.

The problem that examined age and education with stress discovered that inverse relationships existed between age with life events stress and age with job stress, and that no relationships were evident between education and the sources of stress. The indications are that

older managers experience less stress from life event occurrences as well as from job situations. These findings may be a naturally occurring function because of age. It is probable that as managers age, their lives stabilize and the incidence of the major events from the Schedule of Recent Experience diminishes. Similarly, Job Stress levels could also decrease as a manager's expertise in his job function develops. These explanations may, on the surface, account for the relationships determined; however it is important to note that older managers of this study population did experience lower levels of stress in their daily living and at their jobs.

A significant finding was arrived at between the two leisure variables: Frequency of Leisure (number of activities participated in) and the type of leisure participation, Leisure Cluster. This result showed that managers who were involved in more activities were also involved in active type leisure. The examination of the variables age and education with leisure produced a relationship which points out (within this population) that younger managers generally were involved in the less active leisure activity participation. This is not supported by the literature which indicates that as people age, the tendency for leisure is more sedentary. However, this relationship indicated that within the study population a subgroup of the older managers were evident in membership of the more active cluster. The conclusion from this investigation is that within this specific study population the general trend that leisure participation decreases with age is not supported. Noteworthy was the finding that a subgroup of older managers were actively involved in leisure participation perhaps indicating that this general trend is slowly changing.

The examination of management function and stress, highlighted a comparison between the results obtained in this study on the job stress instrument with the original results obtained by the developers of the instrument, Kiev and Kohn (1979). The responses from managers of this study regarding the dominant sources of stress (from the job stress instrument), were identical to those established by Kiev and Kohn. It is apparent that managers in this Edmonton population consider, as do the respondents to the earlier study, that the most important sources of job stress are work and time pressures, lack of job feedback, politicking within the

organization, and the disparity between a manager's goals and the expectations of him by the organization. This finding, although not statistically correlated, is useful for proposing the framework for validation studies on the job stress instrument.

One significant relationship was established between the study variables of management grouping and stress, and this arose from the experience of life events stress. Managers who were responsible for policy making functions underwent the most life events stress. Definitely within this study framework, male public administrators who performed organizational control functions experienced more life events stress than their counterparts performing other functions.

As outlined in Chapter 2, the relationship that apparently exists between occupation and leisure participation is specific to the group studied. Focus upon high occupational prestige groups, of which managers are considered to be a part, indicated that persons of these affiliations were more likely to participate in patterns of leisure that were considered cultural or 'high brow'. A supportive result to that literature was not obtained in the correlational analysis between management group and leisure. Instead, a pattern in the type of leisure emerged for one of the management groups and that of the highest ranking group, POLICY MAKER. These managers participated in Sports Activity. Also, a significant relationship was established for the frequency of participation and management group. Managers who were classified as those controlling the policy and affairs of their organizations (POLICY MAKER), were also found to participate in greater numbers of leisure activities. This assessment corroborates that of White (1975) and results in the conclusion that higher leisure activity levels correspond to management positions of control and policy development within this study population.

The final anlaysis explored the potential relationships between stress and leisure participation. The results from this analysis supported the indications of the research literature, that an inverse relationship between these variables would exist. Life events stress was inversely related to the leisure clustering of respondents, yet this stress was positively related to the frequency of leisure. This apparent paradox emphasizes the diversity of leisure pursuits. The

leisure participation of this study group was found to be represented on an active scale: that is members of the study sample were generally either less active or more active. Those managers who were grouped as participants in the active leisure cluster experienced less life events stress. However, managers who participated in more leisure activities of a less active nature (Low-Physical Entertainment) were found to experience more life events stress and more job stress. The conclusion derived from these results emphasizes the type of leisure pursuit a manager is involved with. Leisure participation, provided it is active in its composition, is related to low experienced life events stress. and any involvement whether high or otherwise with less active leisure, exhibits the reverse effect.

The conclusions established for this study population were that a rank ordering of job functions was a discernible method for grouping managers and that education was a factor in the grouping assignment of managers. Also, age was found to be a factor of influence in the experience of life events stress and job stress, and affected the manager's type of leisure involvements. Furthermore, management groupings exhibited patterns of relationship with life events stress and the frequency of leisure. Finally, life events stress indicated relationships with the frequency of leisure and the type of leisure.

Implications for Practice

The results of this study have indicated that lower levels of stress coincide with participation in sports leisure activities (see p. 80). These findings are supported by much of the research literature. The major problem that seems to exist is in presenting this information in a convincing manner to the non-active population. The implication that higher stress levels increase health risks (Pietrich and Holmes, 1977): and the knowledge that many Canadians maintain lifestyles which represent less active patterns of leisure (Fitness and Lifestyle in Canada,Canada Fitness Survey, 1983), certainly indicates that the public may need to be informed and educated about the potential hazards of high stressed and low active lifestyles.

With respect to the study population education regarding this relationship rather than illness onset, is a preferable method for encouraging managers to become involved with active leisure. The costs to the organization in decreased productivity and employee absenteeism were outlined in Chapter 1, and it is in the organization at the medical office that the focal point of this education should begin. For the organization, its top management may also require, for Personnel practice, to determine whether the sports active manager, who is lower stressed, would be more prductive than a higher stressed non sports active manager. Positive answers to this investigation coupled with the team aspect of sports could be seen as desirable characteristics in management and this result certainly would enhance mobility up the levels in the organization for the sports active manager.

Additionally these results could be applied in fitness counselling for the control of stress with sports leisure activity participation, in some individuals. Also the methods utilized to establish these findings could provide assistance in the assessment of individuals who may be more susceptible to stress with examination of their leisure activity participation.

Insurance agencies have developed "lower cost" plans for non-drinking motorists, and could now focus attention toward company medical insurance, providing "lower cost" plans for the participants of active leisure within organizational populations.

The seriousness of life events causing stress has been validated across many different population groups. These events appear to occur regardless of race, ethnic background, geographical location or culture. It is necessary to provide alternative methods for adjusting to these changes, and these methods should include the participational involvement with sports leisure.

Implications for Research

A study such as this creates more questions than it answers, and these questions could easily be the focus of further research. Recommendations for research develop from the need to understand whether the patterns established within the sample group of this study are replicable

to larger samples, female samples, and to other occupational groups. The permutations that can result from the interchange of these and other variables into the present study frame can be extensive.

Specific focus on areas illuminated by this study should emphasize three methodological concerns. The first requires validity and reliability research upon the a method of measuring management by the rank ordering of the manager's job functions. Continued work on this theme may in time be responsible for developing a composite and acceptable definition of manager, and for developing a hierarchy of management types that is universally applied.

A second focus should specifically analyze the reliability and validity of the job stress instrument by Kiev and Kohn (1979). The results from this study indicate that this instrument could become a useful tool for research into occupational stress and, with further study, this finding may be substantiated.

The final methodological research emphasis needs to explore the validity of developing a leisure scale of activities based on a less active/more active continuum. This base appears to be utilized more frequently in other research (ie: Fitness and Lifestyle in Canada,Canada Fitness Survey, 1983) and certainly defines strict demarcation lines between participants of leisure.

Additional research studies could utilize the variables leisure, lifestyle and stress with emphasis on investigating the relationship leisure as a component of lifestyle has with stress. Also another research concentration could evaluate time diary and observation study with leisure activity participation and stress which may begin to uncover which, if either, of these variables is a determining influence.

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APPENDIX 1

DATA COLLECTION INSTRUMENT

THE UNIVERSITY OF ALBERTA

FACULTY OF PHYSICAL EDUCATION
AND RECREATION

Department of Recreation Administration

EDMONTON ALBERTA CANADA T6G 2H9 TELEPHONE 432-5171

July , 1983

This letter is an invitation to you to assist in the conduct of a study which will explore the role of leisure activity and the level of stress in the lives of management personnel.

This study realizes that managers are one of the major resources of any organization, and that their health and operational performance are keys to organizational survival. Stress is widely accepted by the medical profession as a situation which taxes many systems of the body and is considered a precursor to illness. Research findings exist that suggest leisure activities can serve as an antidote to stressful activities.

You are one of a small number of Public Administrators whose opinion is being sought. To fully address the issue of the role of leisure activity in stress management it is important that each questionnaire be completed. Approximately 30 minutes of your time is needed for this task.

I will be preparing a summary of the report to be distributed to all interested participants. If you wish a copy, please fill out the attached form and send it to me at the Department of Recreation Administration.

Your participation in this study is greatly appreciated, and the strictest confidentiality will be applied to all responses.

I would like to extend my gratitude in advance for your participation in this research. If any concerns should arise, please do not hesitate to call:

business 432-2763
home 435-5457

Peter A. White

I would appreciate a copy of the summary _____

Name _____

Address _____

_____

STRESS, LEISURE and the MANAGER

This questionnaire package is designed to assess the stress experienced and the leisure participation of management personnel.

The entire package should take approximately 30 minutes to complete and it is important that all sections be completed.

Please follow the specific instructions at the beginning of each section.

On completion place the questionnaire package back into the accompanying envelope and forward to me at the address on the envelope.

Thank you for your cooperation

Peter A. White

Peter A. White

Dept. of Recreation Adminstration
University of Alberta
Edmonton, Alberta
T6G 2H9

For the following items please check (✓) the appropriate box.

FOR OFFICE USE ONLY

1. age
   - ☐ under 30
   - ☐ 31 - 35
   - ☐ 36 - 40
   - ☐ 41 - 45
   - ☐ 46 - 50
   - ☐ 51 - 55
   - ☐ 56 - 60
   - ☐ over 60

2. sex
   - ☐ male
   - ☐ female

3. marital status
   - ☐ single
   - ☐ married
   - ☐ separated/divorced
   - ☐ widow/widower
   - ☐ other (common-law, etc.)

4. number of children
   - ☐ zero
   - ☐ one
   - ☐ two
   - ☐ three
   - ☐ four
   - ☐ more than four

5. ages of children
   - ☐ preschool age
   - ☐ elementary school age
   - ☐ teenage
   - ☐ older than teenage

FOR OFFICE USE ONLY

6. level of personal education attained

- ☐ highschool
- ☐ some college
- ☐ college diploma
- ☐ some university
- ☐ university degree
- ☐ graduate degree
- ☐ other (please specify)

---

7. Please indicate the length of time in Years and Months that you have been with this organization.

Years	Months
____	____

8. Please indicate the length of time in Years and Months that you have held this position.

Years	Months
____	____

9. How many reporting levels are there between your position and the Chief Executive office of your organization.
Do not include your position

Please check (✓) one box

- ☐ one
- ☐ two
- ☐ three
- ☐ four
- ☐ five
- ☐ more than five

FOR OFFICE USE ONLY

10. How many reporting levels are there between your position and the position of those directly involved in producing the primary outputs of your organization.
Do not include your position

Please check (✓) one box

- ☐ one
- ☐ two
- ☐ three
- ☐ four
- ☐ five
- ☐ more than five

JOB RESPONSIBILITIES

The following eight item list has been provided to describe many of the important functions of managers. It is possible that, within your job responsibilities, you may perform many or all of these functions.

FOR OFFICE USE ONLY

Indicate by ranking these items from 1 to 8 which activities are the most important aspects of your job.

1 = most important
2 = less important
3 = even less important
etc. to 8
Please use N/A to indicate that you do not perform this activity.

1. I provide planning input into some programs, policies and procedures implemented in my division.

_____

2. I organize and assign tasks to my subordinates.

_____

3. I make staff appraisals.

_____

4. I have input into the selection of candidates for staff positions.

_____

5. I provide direction for subordinates through supervision and guidance of their tasks.

_____

6. I provide input into the division through budgets, staffing hours records, inventory control, etc.

_____

7. I have direct input to the policies developed for this organization.

_____

8. I report to the board of directors and/or other executive on the direction of the affairs of the organization.

_____

Instructions

1) Think back on the event and decide if it happened during the last twelve months. If it did happen indicate the number of times it happened by placing that number in the column labelled 0-12 months ago.

2) When thinking back on the events that occurred during the last twelve months, please indicate in the column labelled quarter of year when this event occurred, by stating 1st and/or 2nd and/or 3rd and/or 4th for the quarter of the year as listed below.

(1st quarter refers to July - Sept. 1982
2nd quarter refers to Oct. - Dec. 1982
3rd quarter refers to Jan. - March 1983
4th quarter refers to Apr. - June, 1983)

		0-12 months ago	quarter of year
1.	A lot more or a lot less trouble with the boss.	____	____
2.	A major change in sleeping habits (sleeping a lot more or a lot less, or change in part of day when asleep).	____	____
3.	A major change in eating habits (a lot more or a lot less food intake, or very different meal hours or surroundings).	____	____
4.	A revision of personal habits (dress, manners, associations, etc.)	____	____
5.	A major change in your usual type and/or amount of recreation.	____	____
6.	A major change in your social activities (e.g. clubs, dancing, movies, visiting, etc.)	____	____
7.	A major change in church activities (e.g., a lot more or a lot less than usual)	____	____
8.	A major change in number of family-get-togethers (e.g. a lot more or a lot less than usual).	____	____
9.	A major change in financial state (e.g., a lot worse off or a lot better off than usual).	____	____

		0-12 months ago	quarter of year
10.	In-law troubles.	_____	_____
11.	A major change in the number of arguments with spouse (e.g. either a lot more or a lot less than usual regarding child-rearing, personal habits, etc.)	_____	_____
12.	Sexual difficulties.	_____	_____
13.	Major personal injury or illness.	_____	_____
14.	Death of a close family member (other than spouse).	_____	_____
15.	Death of spouse.	_____	_____
16.	Death of a close friend.	_____	_____
17.	Gaining a new family member (e.g., through birth, adoption, oldster moving in, etc.).	_____	_____
18.	Major change in the health or behavior of a family member.	_____	_____
19.	Change in residence.	_____	_____
20.	Detention in jail or other institution.	_____	_____
21.	Minor violations of the law (e.g., traffic tickets, jaywalking, disturbing the peace, etc.)	_____	_____
22.	Major business readjustment (e.g., merger, reorganization, bankruptcy, etc.)	_____	_____
23.	Marriage.	_____	_____
24.	Divorce.	_____	_____
25.	Marital separation from spouse.	_____	_____
26.	Outstanding personal achievement.	_____	_____
27.	Son or daughter leaving home (e.g. marriage, attending college, etc.)	_____	_____
28.	Retirement from work.	_____	_____

		0-12 months ago	quarter of year
29.	Major change in working hours or conditions.	____	____
30.	Major change in responsibilities at work.	____	____
31.	Being fired from work.	____	____
32.	Major change in living conditions (e.g., building a new home, remodeling, deterioration of home or neighborhood).	____	____
33.	Wife beginning or ceasing work outside home.	____	____
34.	Taking out a mortgage or loan for a major purchase (e.g., purchasing a home, business, etc.)	____	____
35.	Taking out a mortgage or loan for a lesser purchase (e.g., purchasing a car, TV, freezer, etc.)	____	____
36.	Foreclosure on a mortgage or loan.	____	____
37.	Vacation.	____	____
38.	Changing to a new school.	____	____
39.	Changing to a different line of work.	____	____
40.	Beginning or ceasing formal schooling.	____	____
41.	Marital reconciliation with mate.	____	____
42.	Pregnancy.	____	____

STRESS AND THE JOB

This section of the questionnaire is designed to indicate what factors related to your job are most stress producing.

Indicate by placing a (✓) mark in the appropriate column the degree to which the following items have caused you stress in the past year.

	Seldom	Sometimes	Often	Very Often	Nev
1. Heavy workload/time pressures, unrealistic deadlines.					
2. Long hours/long commuting distance					
3. Excessive travel					
4. Not enough income to maintain desired standard of living					
5. CHANGE ...in responsibilities (i.e. promotion, lateral transfer)					
...in working hours or conditions					
6. Having to compromise my principles for the sake of my career					
7. Fear of failing on specific assignment(s)					
8. Disparity between what I have to do on the job and what I would like to accomplish					
9. Anxiety about job security					
10. Threat to my self-respect when I interact with others					

	Seldom	Sometimes	Often	Very Often	Never
11. Lack of feedback on job performance					
12. Unsatisfactory working relationship with ... superior ... subordinate(s) ... colleagues					
13. Competition from younger or better education managers/ women/minority group members					
14. Uncertainty about what is expected of me on the job					
15. Lack of authority to make decisions that match my responsibilities					
16. Lack of (or limited) opportunities for advancement					
17. The general "political" climate of the organization					
18. Uncertainty about the organization's or industry's future					
19. Change in organization structure/company reorganization					

This portion of the questionnaire package is designed to elicit your personal response concerning the amount of stress you have experienced over the past twelve months.

Please explain the effects stress has had on you in the past year. Be free to add any comments that you feel appropriate.

Instructions: Below is a duplicate list of leisure and recreation activities. For each activity please assess whether you have either initiated or terminated the activity in the past twelve months. Indicate this change in participation by placing an I for initiated or a T for terminated in the square beside the activity.

On the line provided in front of the square please indicate when this change in participation occurred by writing a 1 and/or 2 and/or 3 and/or 4.

1 refers to the 1st quarter of the year July - Sept. 1982
2 refers to the 2nd quarter of the year Oct. - Dec. 1982
3 refers to the 3rd quarter of the year Jan. - Mar. 1983
4 refers to the 4th quarter of the year Apr. - June 1983

eg: 1 [T] Archery

1 Acting/Dramatics
2 Amateur radio
3 Archery
4 Attending auctions
5 Attending concerts
6 Auto repairing
7 Backpacking
8 Badminton
9 Baseball/Softball
10 Basketball
11 Bicycling
12 Billiards/Pool
13 Bird watching
14 Bookbinding
15 Bowling
16 Boxing
17 Camping
18 Canoeing
19 Casino gambling
20 Ceramics/Pottery
21 Chess
22 Child-related activity:Scouts,PTA.
23 Civic organizations
24 Collecting:Coins/ Antiques, etc.
25 Conservation/Ecology organizations
26 Cooking/Baking
27 Crossword puzzles
28 Curling
29 Dancing
30 Designing clothes
31 Dining out
32 Driving/Motoring
33 Electronics
34 Exercising
35 Fencing
36 Fishing:Fresh water
37 Fishing:Ice
38 Flower arranging
39 Flying/Gliding
40 Folk dancing
41 Football
42 Fraternal organizations
43 Gardening
44 Go to horseraces
45 Go to movies
46 Go to nightclubs/ discos
47 Go to plays/lectures
48 Golf
49 Gymnastics
50 Hiking/Walking
51 Home decorating
52 Horseback riding
53 Horseshoes
54 Hunting
55 Ice hockey
56 Ice skating
57 Jewelry making
58 Jigsaw puzzles
59 Jogging
60 Judo/Karate
61 Kite flying
62 Knitting/Crocheting
63 Leatherworking
64 Listening to radio
65 Listening to records
66 Marksmanship
67 Mechanics
68 Metalwork
69 Model building
70 Motorboating
71 Motorcycling
72 Mountain climbing
73 Needlework
74 Painting/Drawing
75 Photography
76 Picnicking
77 Playing a musical instrument
78 Political activities
79 Reading:Books/Plays/ Poetry
80 Reading:Newspapers/ Magazines
81 Religious organizations
82 Roller skating
83 Rowing/Boating
84 Sailing
85 Sculpture
86 Sightseeing
87 Singing
88 Skiing:Downhill
89 Skiing:X-country
90 Skindiving
91 Social drinking
92 Soccer
93 Squash/Raquetball
94 Snowmobiling
95 Snowshoeing
96 Sunbathing
97 Swimming
98 Table/Board games
99 Table tennis
100 Tennis
101 Travelling abroad
102 Video/Electronic games
103 Visiting friends
104 Visiting museums
105 Volleyball
106 Volunteer work
107 Watching team sp
108 Watching TV shows
109 Water skiing
110 Weaving
111 Weight lifting
112 Window-shopping
113 Wrestling
114 Writing:Poetry/St
115 Writing:Letters
116 Woodworking

LEISURE ACTIVITY LISTING

Instructions: Below is a list of leisure and recreation activities. For each activity, indicate the extent of your past participation (during the last twelve months), using the following system:

1 = you have never engaged in the activity
2 = you tried it once or a few times
3 = you once did it regularly, but no longer do it regularly
4 = you currently engage in it regularly

Write in the number corresponding to the extent of your past participation in the square next to each activity listed below.

☐ 1 Acting/Dramatics
☐ 2 Amateur radio
☐ 3 Archery
☐ 4 Attending auctions
☐ 5 Attending concerts
☐ 6 Auto repairing
☐ 7 Backpacking
☐ 8 Badminton
☐ 9 Baseball/Softball
☐ 10 Basketball
☐ 11 Bicycling
☐ 12 Billiards/Pool
☐ 13 Bird watching
☐ 14 Bookbinding
☐ 15 Bowling
☐ 16 Boxing
☐ 17 Camping
☐ 18 Canoeing
☐ 19 Casino gambling
☐ 20 Ceramics/Pottery
☐ 21 Chess
☐ 22 Child-related activity:Scouts,PTA.
☐ 23 Civic organizations
☐ 24 Collecting:Coins/Antiques, etc.
☐ 25 Conservation/Ecology organizations
☐ 26 Cooking/Baking
☐ 27 Crossword puzzles
☐ 28 Curling
☐ 29 Dancing
☐ 30 Designing clothes
☐ 31 Dining out
☐ 32 Driving/Motoring
☐ 33 Electronics
☐ 34 Exercising
☐ 35 Fencing
☐ 36 Fishing:Fresh water
☐ 37 Fishing:Ice
☐ 38 Flower arranging
☐ 39 Flying/Gliding
☐ 40 Folk dancing
☐ 41 Football
☐ 42 Fraternal organizations
☐ 43 Gardening
☐ 44 Go to horseraces
☐ 45 Go to movies
☐ 46 Go to nightclubs/discos
☐ 47 Go to plays/lectures
☐ 48 Golf
☐ 49 Gymnastics
☐ 50 Hiking/Walking
☐ 51 Home decorating
☐ 52 Horseback riding
☐ 53 Horseshoes
☐ 54 Hunting
☐ 55 Ice hockey
☐ 56 Ice skating
☐ 57 Jewelry making
☐ 58 Jigsaw puzzles
☐ 59 Jogging
☐ 60 Judo/Karate
☐ 61 Kite flying
☐ 62 Knitting/Crocheting
☐ 63 Leatherworking
☐ 64 Listening to radio
☐ 65 Listening to records
☐ 66 Marksmanship
☐ 67 Mechanics
☐ 68 Metalwork
☐ 69 Model building
☐ 70 Motorboating
☐ 71 Motorcycling
☐ 72 Mountain climbing
☐ 73 Needlework
☐ 74 Painting/Drawing
☐ 75 Photography
☐ 76 Picnicking
☐ 77 Playing a musical instrument
☐ 78 Political activities
☐ 79 Reading:Books/Plays/Poetry
☐ 80 Reading:Newspapers/Magazines
☐ 81 Religious organizations
☐ 82 Roller skating
☐ 83 Rowing/Boating
☐ 84 Sailing
☐ 85 Sculpture
☐ 86 Sightseeing
☐ 87 Singing
☐ 88 Skiing:Downhill
☐ 89 Skiing:X-country
☐ 90 Skindiving
☐ 91 Social dancing
☐ 92 Soccer
☐ 93 Squash/Raquetball
☐ 94 Snowmobiling
☐ 95 Snowshoeing
☐ 96 Sunbathing
☐ 97 Swimming
☐ 98 Table/Board games
☐ 99 Table tennis
☐ 100 Tennis
☐ 101 Travelling abroad
☐ 102 Video/Electronic games
☐ 103 Visiting friends
☐ 104 Visiting museums
☐ 105 Volleyball
☐ 106 Volunteer work
☐ 107 Watching team sports
☐ 108 Watching TV shows
☐ 109 Water skiing
☐ 110 Weaving
☐ 111 Weight lifting
☐ 112 Window-shopping
☐ 113 Wrestling
☐ 114 Writing:Poetry
☐ 115 Writing:Letters
☐ 116 Woodworking

APPENDIX 2

CANADIAN SURVEYS UTILIZED FOR DEVELOPMENT OF LEISURE ACTIVITY LISTING

Canadian Surveys utilized for development of Leisure Activity Listing.

a. Retirement Activities Quiz, n.d.,n.n.,n.p.

b. 1980 Alberta Recreation & Parks: Recreation participation patterns, attitudes and motivations of Albertans.

c. ACESS ALTA: Family Lifestyle Patterns, n.d.,n.p.

d. Recreation & Parks: Public Opinion Survey on Recreation, (past 12 months), n.d.,n.n.,n.p.

e. City of Edmonton Parks & Recreation: Participation in Active Sports/Athletics, (past 12 months), n.d.,n.p.

f. Yukon Activity Survey: Yukon Residents Outdoor Recreation Survey; U. of A., n.d.,n.p.

g. Dominion Bureau of Statistics Activity List (Form 44A), n.d.

h. 1975 Survey of Selected Leisures (Statistics Canada Form SLA-1).

i. 1976 Survey of Physical Fitness, Recreation & Sport (Statistics Canada, 1976)

APPENDIX 3

SAMPLE OF WRITTEN COMMUNICATION WITH PARTICIPATING AGENCY

THE UNIVERSITY OF ALBERTA

FACULTY OF PHYSICAL EDUCATI
AND RECREATION

Department of Recreation Administration

EDMONTON, ALBERTA CANADA T6G 2H9 TELEPHONE 432-5171

Executive Director
Planning Directorate

This letter has been prepared to serve three distinct purposes:

(i) to seek permission to survey a small group (from 6 to 10) of the Department of Advanced Education's management personnel;

(ii) to obtain a list of these personnel for whom contact to participate in the survey can be made; and

(iii) to briefly describe the research project.

This project is being conducted as part of a Master's degree in Recreation Administration and is the basis of the Thesis for that degree.

The project is under the direction of Dr.R.P.Heron (President A.A.S.U.A.), Dr.T.L.Burton (Chairman, Dept. of Recreation Administration, U.of A.), and Dr.T.H.White (Dean, Faculty of Arts, U. of A.).

The research focus is experienced stress and leisure participation of management personnel.

Information will be collected by a self administered questionnaire (attached) which requires approximately 30 minutes of an individual manager's time.

Feedback to all interested participants will be given in the form of a summary report.

Eight public organizations are being approached to offer assistance, in the form of access to employees, for this research. The total sample will be comprised of participating managers from all eight organizations.

For further information please contact me at any of the following numbers:

432-2763 or 432-5171 (University of Alberta)
435-5457 (home)

I would be only too happy to come and meet with those interested to discuss this research in more detail.

Sincerely

Peter A. White

Peter A. White

APPENDIX 4

TEMPLATE FOR SCORING THE SCHEDULE OF RECENT EXPERIENCE

TEMPLATE FOR HAND SCORING THE SCHEDULE OF RECENT EXPERIENCE (SRE)

One-Year Version

Place the template on top of the questionnaire so the line and value for number 1 are even with the response of the subject to this event.

On page 2, the line and value for number 18 should be even with the response.

To score the SRE, multiply the number of times each event occurred by the value listed for the event. Put these answers to right of response column.

Total the results for a score for the one-year period.

Responses of 4+ are scored as 4.

No.	Value	
1.	23	_
2.	16	_
3.	15	_
4.	24	_
5.	19	_
6.	18	_
7.	19	_
8.	15	_
9.	38	_
10.	29	_
11.	35	_
12.	39	_
13.	53	_
14.	63	_
15.	100	_
16.	37	_
17.	39	_

No.	Value	
18.	44	_
19.	20	_
20.	63	_
21.	11	_
22.	39	
23.	50	_
24.	73	_
25.	65	_
26.	28	_
27.	29	
28.	45	_
29.	20	_
30.	29	
31.	47	_
32.	25	_
33.	26	
34.	31	_
35.	17	_
36.	30	_
37.	13	_
38.	20	_
39.	36	_
40.	26	_
41.	45	_
42.	40	_

TOTAL

APPENDIX 5

STANDARDIZED FACTOR SCORES OF RESPONDENTS

LEISURE ACTIVITY PARTICIPATION

STANDARDIZED FACTOR SCORES OF RESPONDENT'S LEISURE ACTIVITY PARTICIPATION

Case Number	1	2	3	4	5	6
1	42.8	49.8	40.5	75.5	42.8	48.9
2	59.5	62.7	54.8	62.9	46.5	57.5
3	43.1	56.9	40.3	59.4	54.7	58.6
6	41.2	43.7	43.4	45.5	44.8	54.6
7	51.7	61.2	45.9	60.0	63.2	60.9
8	53.3	53.3	56.4	51.6	47.5	55.4
9	79.9	53.6	65.3	43.9	50.6	49.1
10	48.7	57.7	54.4	47.2	49.3	37.7
11	40.8	61.3	38.0	70.5	48.6	43.2
12	61.7	59.8	45.2	56.7	61.5	71.6
15	52.3	47.2	57.4	46.4	59.1	60.9
16	56.3	41.4	43.7	45.5	33.1	50.2
17	50.5	54.3	41.3	53.3	37.0	49.8
18	70.6	49.6	46.8	35.3	43.0	56.0
19	33.9	32.2	54.0	54.8	49.4	57.6
20	39.5	60.4	48.5	54.8	50.7	51.2
21	53.4	56.0	55.4	58.6	57.9	53.4
23	61.5	61.1	47.2	42.2	39.5	37.0
24	48.4	56.2	56.8	39.4	38.0	51.3
26	44.0	49.1	49.5	60.3	36.0	59.2
28	41.6	51.5	44.4	36.5	49.1	54.8
29	41.8	57.9	42.0	49.4	41.8	35.3
30	37.1	51.3	44.0	43.8	51.5	55.7
33	51.4	45.2	57.1	52.3	52.5	55.4
34	55.6	51.1	51.6	43.0	67.7	44.3
35	39.4	36.4	40.5	44.4	56.0	44.9
36	37.9	53.5	52.9	43.0	76.5	56.6
37	49.8	62.7	43.1	40.8	71.3	11.4
38	37.3	53.5	65.2	39.4	43.5	45.4
39	35.9	46.0	50.4	58.3	44.8	40.0
40	51.9	39.7	34.5	50.2	51.6	50.6
42	53.0	54.7	45.8	42.1	52.3	53.5
43	57.8	50.2	38.0	35.2	50.0	59.2
44	40.3	44.6	57.1	42.2	56.7	53.6
45	58.6	53.7	63.5	48.5	50.2	34.4
46	40.0	49.2	59.7	46.2	48.2	50.0
47	46.6	52.5	46.9	45.9	36.0	48.2
48	52.6	55.1	42.6	44.9	59.5	55.1
50	39.8	45.2	80.5	55.0	65.8	54.1
51	55.7	29.1	40.5	45.5	35.6	47.6

52	62.1	29.0	33.6	34.4	74.0	43.4
53	60.3	35.8	81.9	63.9	42.6	48.0
54	43.1	34.7	48.0	44.4	46.6	47.0

Mean = 5.0
S.D. = 10